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LG

LG

Multi Type Air Conditioner

SERVICE MANUAL

MODEL: Indoor Unit: Wall Mounted Type

TMNC092DYAA(M092CD)

TMNC122DYAA(M122CD)

Outdoor Unit: T2UC182FAA(M182CX)

T2UC242FAA(M242CX)

CAUTION

- BEFORE SERVICING THE UNIT, READ THE SAFETY PRECAUTIONS IN THIS MANUAL.
- ONLY FOR AUTHORIZED SERVICE PERSONNEL.

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Safety Precautions

To prevent injury to the user or other people and property damage, the following instructions must be followed.

■ Incorrect operation due to ignoring instruction will cause harm or damage. The seriousness is classified by the following indications.

⚠ WARNING This symbol indicates the possibility of death or serious injury.

⚠ CAUTION This symbol indicates the possibility of injury or damage.

■ Meanings of symbol used in this manual are as shown below.



Be sure not to do.



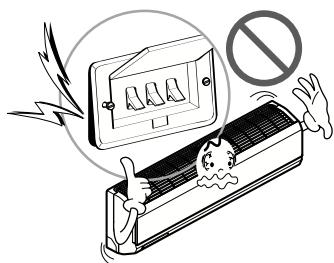
Be sure to follow the instruction.

⚠ WARNING

■ Installation

Do not use a defective or underrated circuit breaker. Use this appliance on a dedicated circuit.

- There is risk of fire or electric shock.



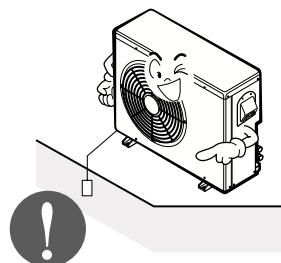
Do not let the air conditioner run for a long time when the humidity is very high and a door or a window is left open.

- Moisture may condense and wet or damage furniture.



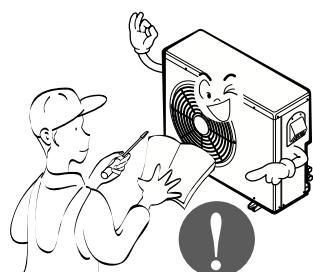
Always ground the product.

- There is risk of fire or electric shock.



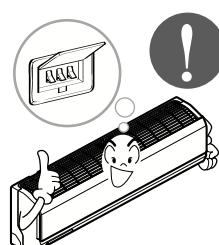
Install the panel and the cover of control box securely.

- There is risk of fire or electric shock.



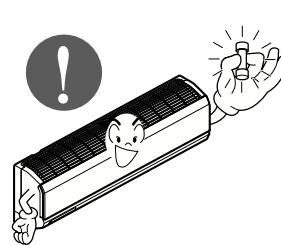
Always install a dedicated circuit and breaker.

- Improper wiring or installation may cause fire or electric shock.



Use the correctly rated breaker or fuse.

- There is risk of fire or electric shock.



Safety Precautions

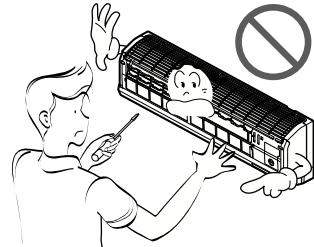
Do not modify or extend the power cable.

- There is risk of fire or electric shock.



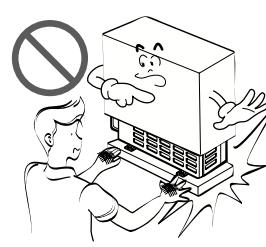
Do not install, remove, or re-install the unit by yourself (customer).

- There is risk of fire, electric shock, explosion, or injury.



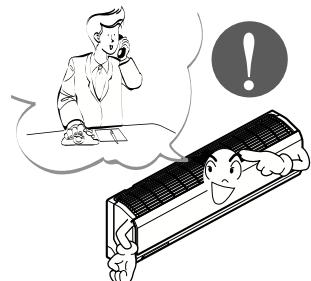
Be cautious when unpacking and installing the product.

- Sharp edges could cause injury. Be especially careful of the case edges and the fins on the condenser and evaporator.



For installation, always contact the dealer or an Authorized Service Center.

- There is risk of fire, electric shock, explosion, or injury.



Do not install the product on a defective installation stand.

- It may cause injury, accident, or damage to the product.



Be sure the installation area does not deteriorate with age.

- If the base collapses, the air conditioner could fall with it, causing property damage, product failure, and personal injury.



■ Operational

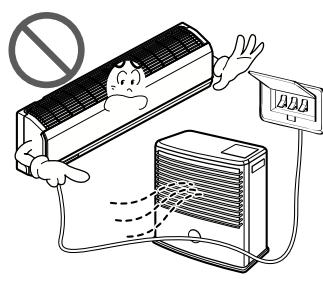
Do not touch(operate) the product with wet hands.

- There is risk of fire or electrical shock.



Do not place a heater or other appliances near the power cable.

- There is risk of fire and electric shock.



Do not allow water to run into electric parts.

- It may cause There is risk of fire, failure of the product, or electric shock.



Do not store or use flammable gas or combustibles near the product.

- There is risk of fire or failure of product.



If strange sounds, or smell or smoke comes from product. Turn the breaker off or disconnect the power supply cable.

- There is risk of electric shock or fire.



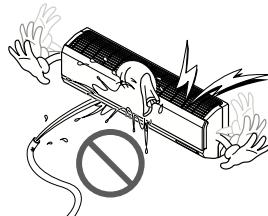
Do not open the inlet grille of the product during operation. (Do not touch the electrostatic filter, if the unit is so equipped.)

- There is risk of physical injury, electric shock, or product failure.



Be cautious that water could not enter the product.

- There is risk of fire, electric shock, or product damage.



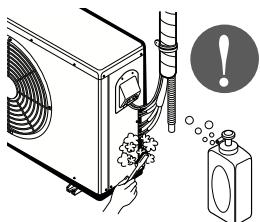
Safety Precautions

CAUTION

■ Installation

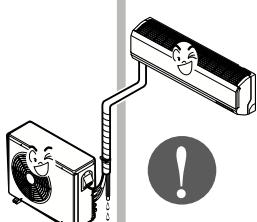
check for gas (refrigerant) leakage after installation or repair of product.

- Low refrigerant levels may cause failure of product.



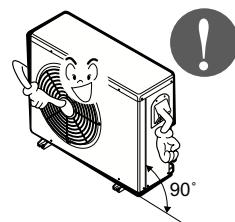
Install the drain hose to ensure that water is drained away properly.

- A bad connection may cause water leakage.



Keep level even when installing the product.

- To avoid vibration or water leakage.



■ Operational

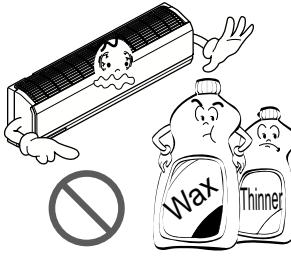
Use two or more people to lift and transport the product.

- Avoid personal injury.



Use a soft cloth to clean. Do not use harsh detergents, solvents, etc.

- There is risk of fire, electric shock, or damage to the plastic parts of the product.



Do not touch the metal parts of the product when removing the air filter. They are very sharp!

- There is risk of personal injury.



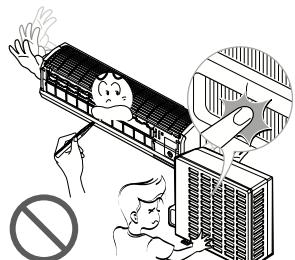
Do not step on or put anything on the product.
(outdoor units)

- There is risk of personal injury and failure of product.

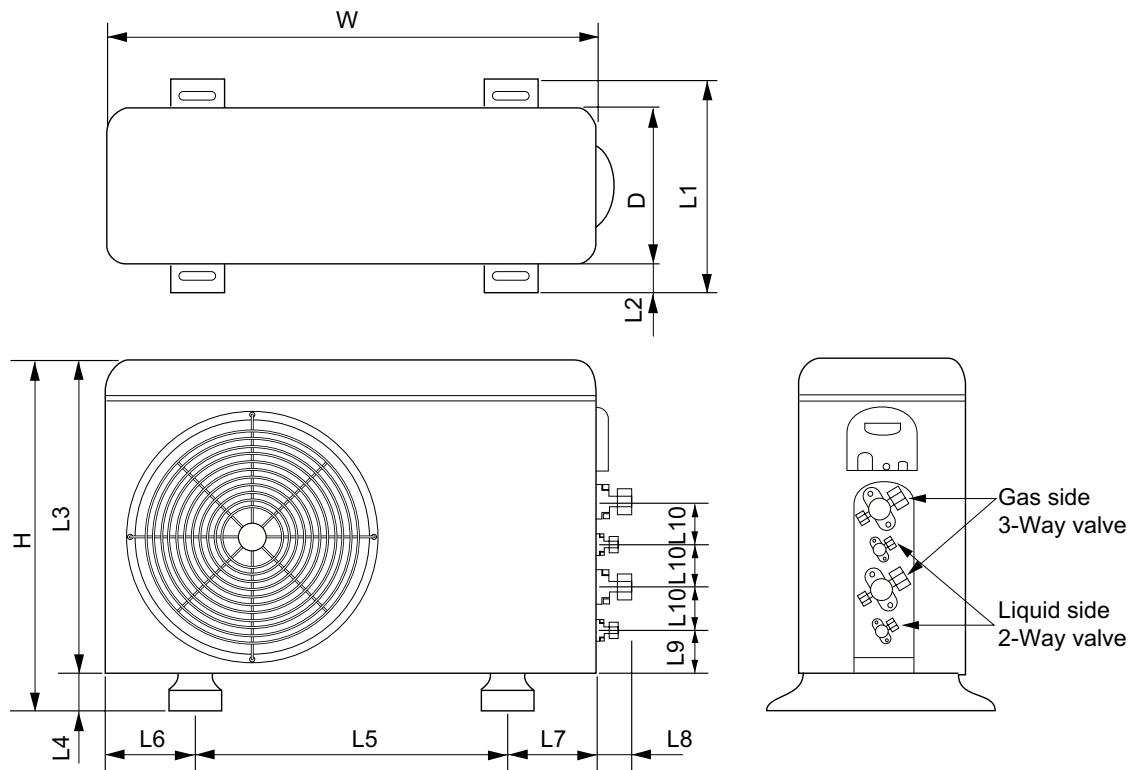


Do not insert hands or other objects through the air inlet or outlet while the product is operated.

- There are sharp and moving parts that could cause personal injury.



Model : T2UC242FAA

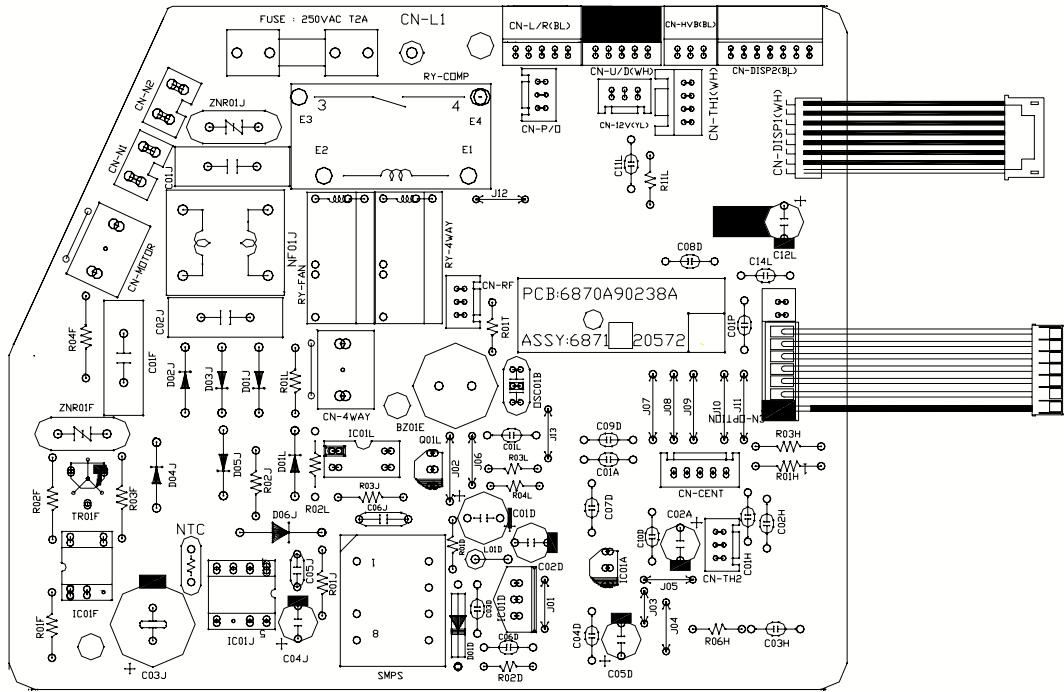


DIM	MODEL	T2UC242FAA(M242CX)
W	mm	870
H	mm	655
D	mm	320
L1	mm	370
L2	mm	25
L3	mm	630
L4	mm	25
L5	mm	546
L6	mm	160
L7	mm	160
L8	mm	55
L9	mm	80
L10	mm	50

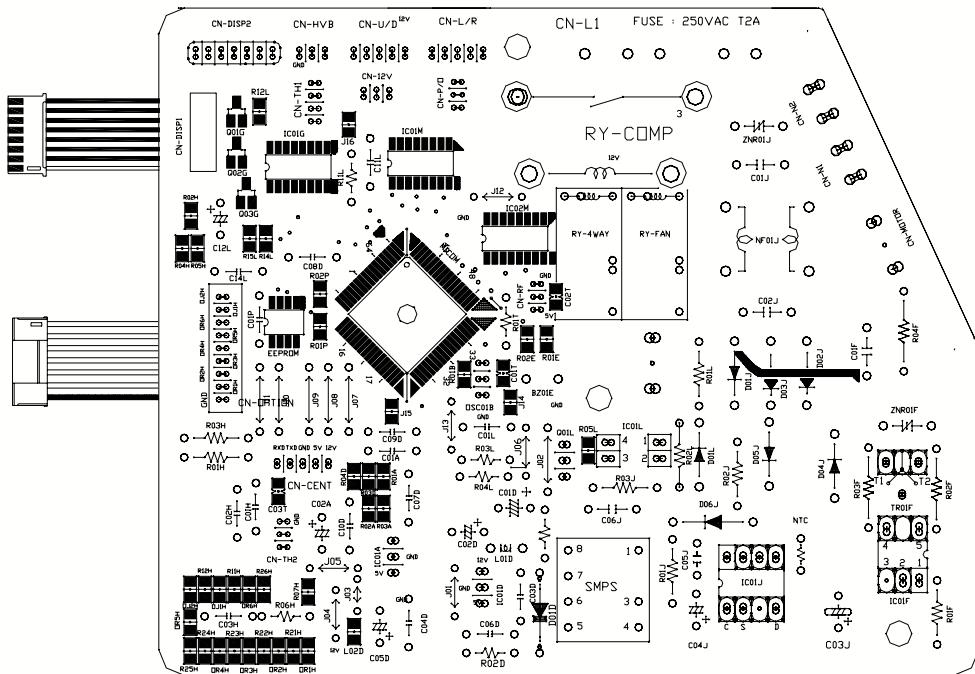
Electronic Control Device

Indoor Unit

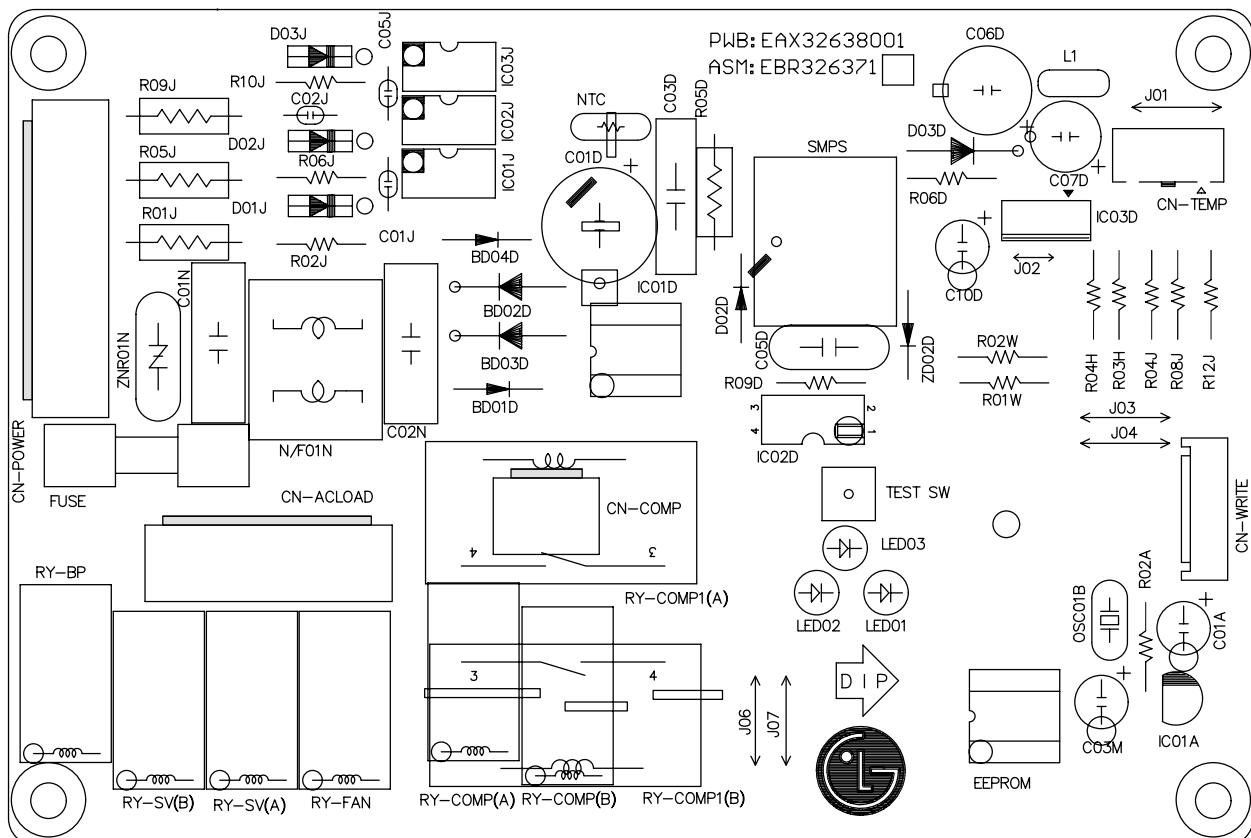
- MAIN P.C.B ASM
- TOP VIEW



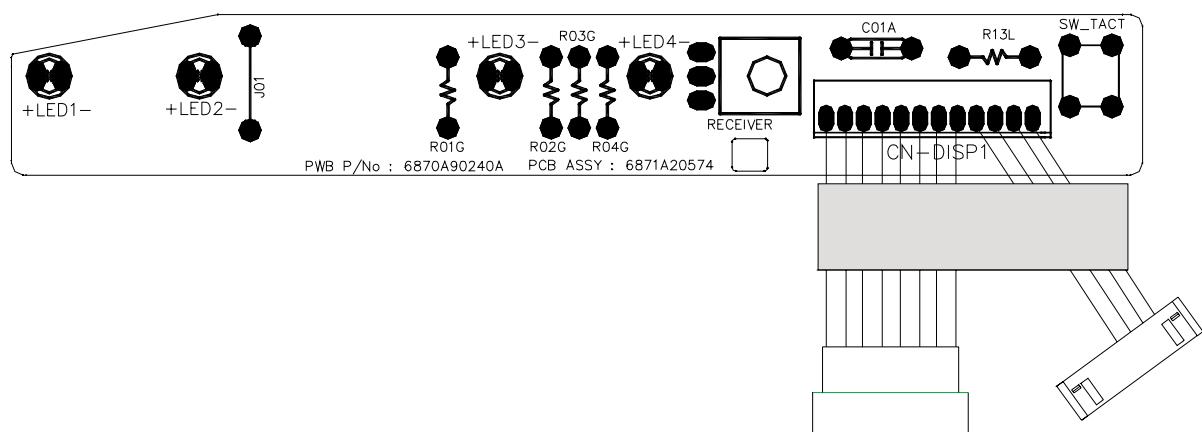
- BOTTOM VIEW



Outdoor Unit

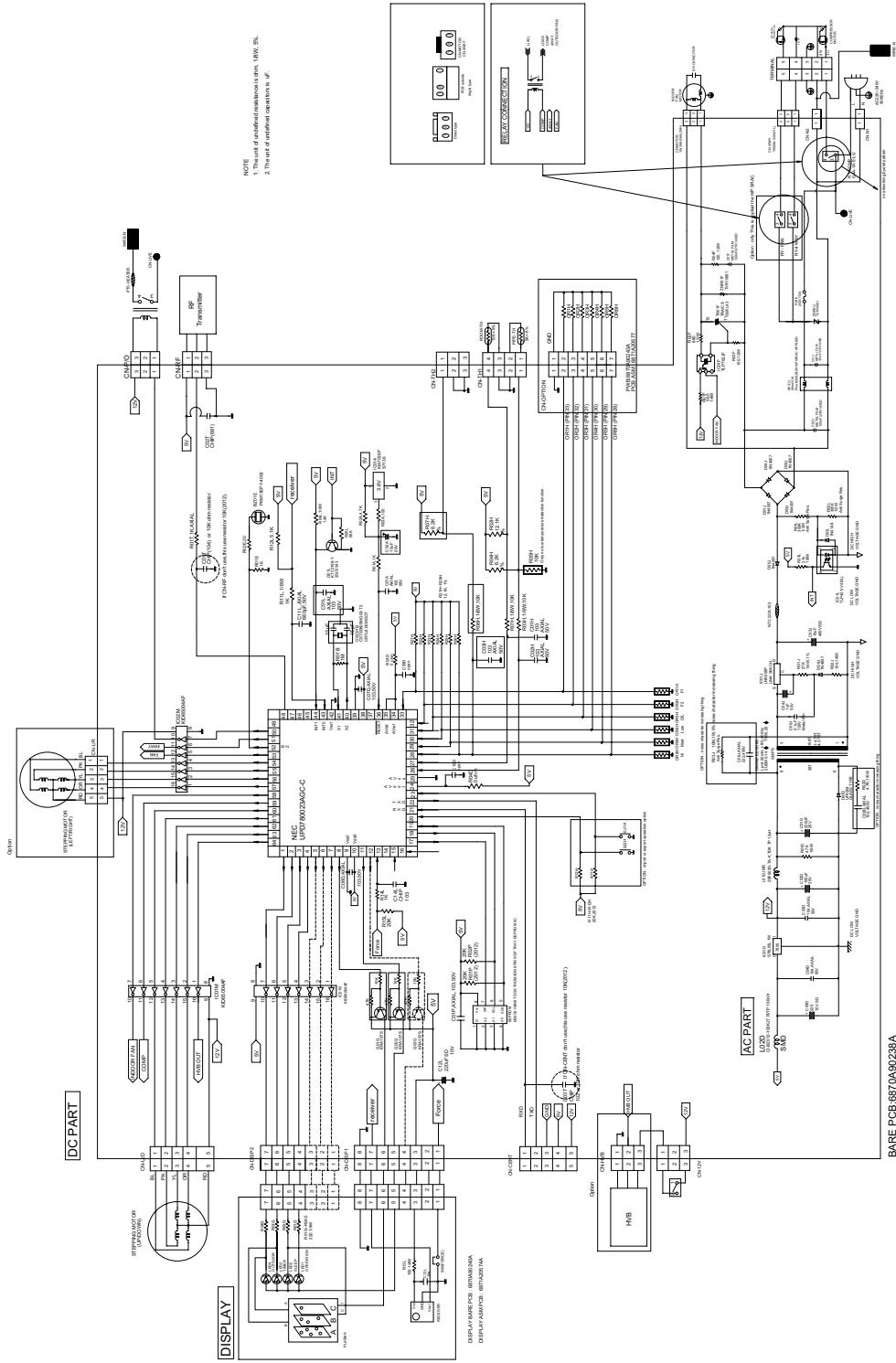


Display P.C.B ASM

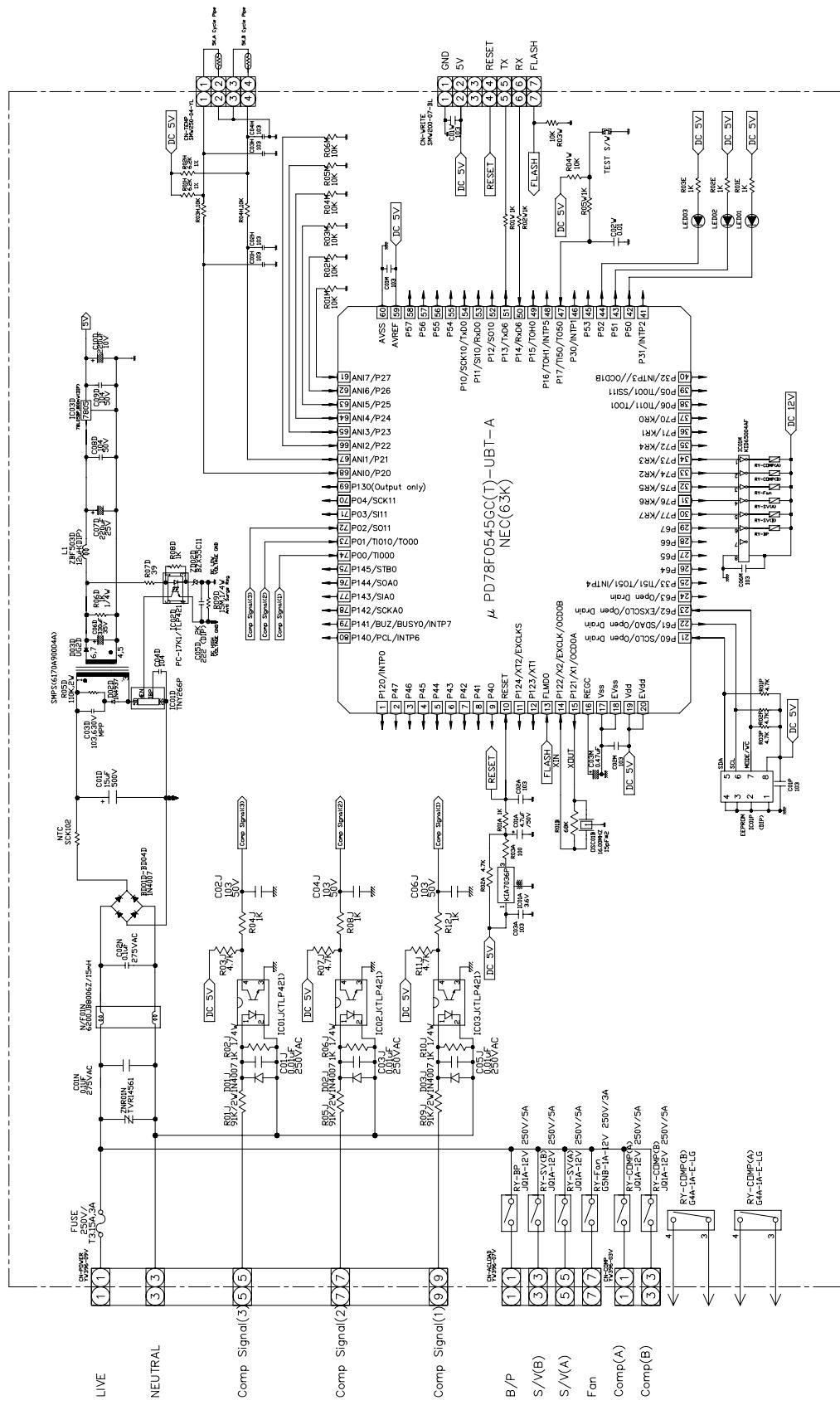


Schematic Diagram

Indoor Unit



Schematic Diagram



Function of Indoor Unit

Wall mounted type

Operation ON/OFF by Remote controller

Sensing the Room Temperature

- Room temperature sensor. (THERMISTOR)

Room temperature control

- Maintains the room temperature in accordance with the Setting Temp.

Starting Current Control

- Indoor fan is delayed for 5 seconds at the starting.

Time Delay Safety Control

- Restarting is inhibited for approx. 3 minutes.

Indoor Fan Speed Control

- High, Med, Low, Chaos

Operation indication Lamps (LED)



--- Lights up in operation



--- Lights up in Sleep Mode



--- Lights up in Energy Saving Mode



--- Lights up in Defrost Mode(for Heating model)

**OUT
DOOR**

--- Lights up in Compressor operation(for Cooling model)

Health Dehumidification Operation

- Intermittent operation of fan at low speed.

Sleep Mode Auto Control

- The fan is switched to low(Cooling), med(Heating) speed.
- The unit will be stopped after 1, 2, 3, 4, 5, 6, 7 hours.

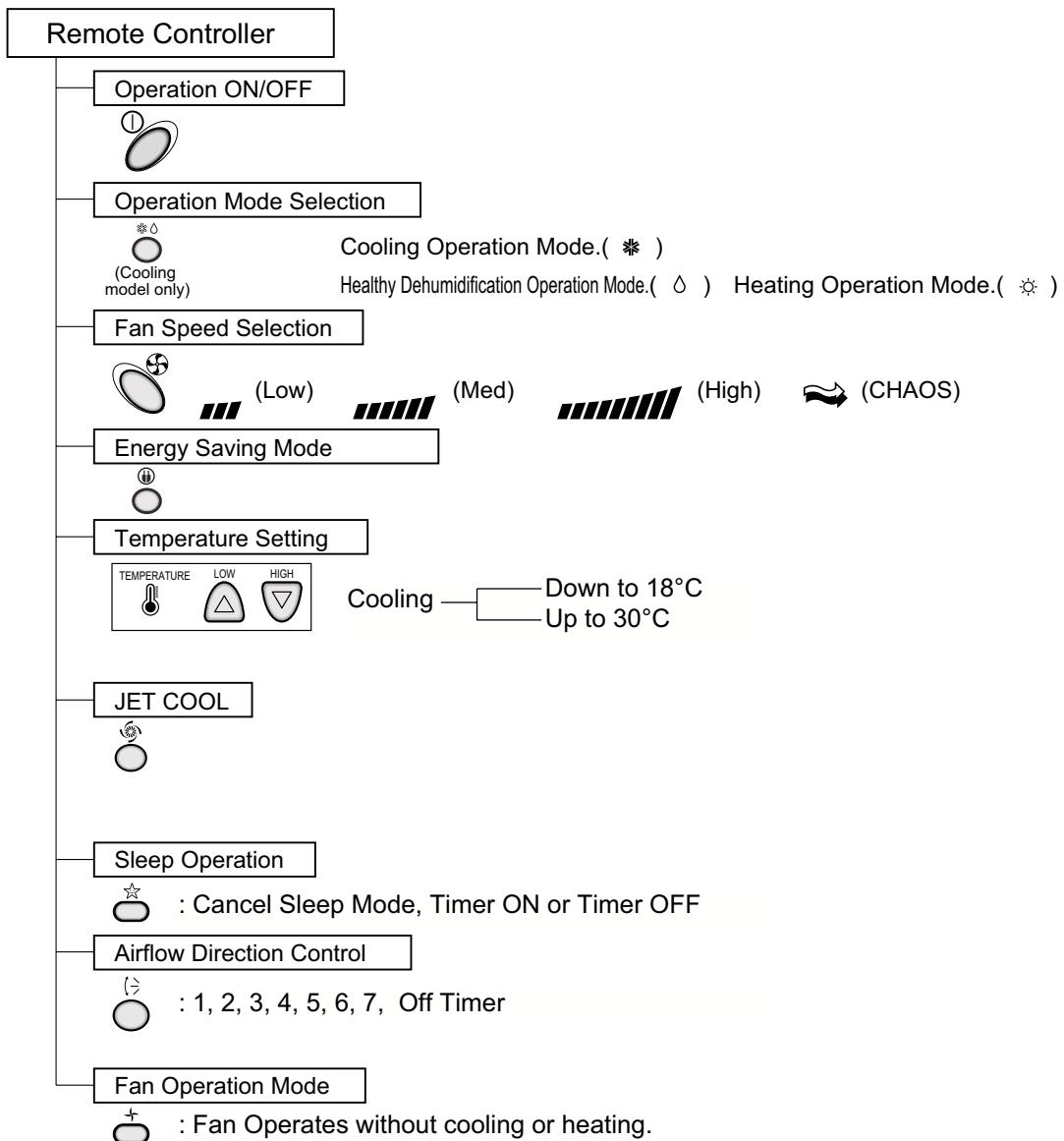
Natural Air Control by CHAOS Logic

- The fan is switched to intermittent or irregular operation
- The fan speed is automatically switched from high to low speed.

Airflow Direction Control

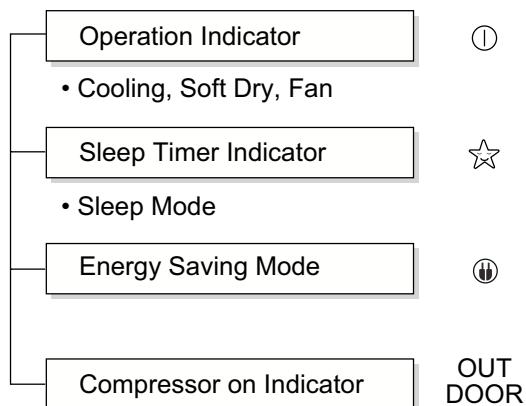
- The louver can be set at the desired position or swing up and down automatically.

Functions



Display Function

Cooling Model



Self-diagnosis Function

Error Indicator

- The function is to self-diagnosis airconditioner and express the troubles identically if there is any trouble.
- Error mark is ON/OFF for the operation LED of evaporator body in the same manner as the following table.
- If more than two troubles occur simultaneously, primarily the highest trouble fo error code is expressed.
- After error occurrence, if error is released, error LED is also released simultaneously.
- To operate again on the occurrence of error code 12, be sure to pull out power cord and then re-insert.
- Having or not of error code is different from Model.

Error Code	Error Display LED (Indoor body operation LED)	Error contents	SVC check point
1	<p>The diagram shows a sequence of four vertical bars representing LED pulses. The first bar is labeled "(once)". Below the bars are three double-headed arrows, each labeled "3sec", indicating the duration between the first pulse and the second, the second and the third, and the third and the fourth.</p>	<ul style="list-style-type: none"> Indoor room temperature thermistor open/short Indoor pipe temperature thermistor open/short. 	<ul style="list-style-type: none"> Indoor Thermistor assembly check

Operation Details

Function of Controls

• DISPLAY

C/O Model

Operation Indicator

- ON while in appliance operation, OFF while in appliance pause.
- Flashing while in disconnection or short in Thermistor. (3 sec off / 0.5 sec on)

Sleep Mode

Comp. Running Incidator

- While in appliance operation, ON while in outdoor unit compressor running, OFF while in compressor off.

Energy Saving Mode

■ Cooling Mode Operation

- When the intake air temperature reaches 0.5 °C below the setting temp, the compressor and the outdoor fan stop.
- When it reaches 0.5 °C above the setting temp, they start to operate again.

Compressor ON Temp	⇒ Setting Temp+0.5°C
Compressor OFF Temp	⇒ Setting Temp-0.5°C
- While in compressor running, operating with the airflow speed set by the remote control. While in compressor not running, operating with the low airflow speed regardless of the setting.

■ Healthy Dehumidification Mode

- When the dehumidification operation input by the remote control is received, the intake air temperature is detected and the setting temp is automatically set according to the intake air temperature.

26°C ≤ Intake Air Temp	⇒ 25°C
24°C ≤ Intake Air Temp < 26°C	⇒ Intake Air Temp-1°C
18°C ≤ Intake Air Temp < 24°C	⇒ Intake Air Temp-0.5°C
Intake Air Temp < 18°C	⇒ 18°C
- While in compressor off, the indoor fan repeats low airflow speed and pause.
- While the intake air temp is between compressor on temp. and compressor off temp., 10-min dehumidification operation and 4-min compressor off repeat.

Compressor ON Temp.	⇒ Setting Temp+0.5°C
Compressor OFF Temp.	⇒ Setting Temp-0.5°C
- In 10-min dehumidification operation, the indoor fan operates with the low airflow speed.

■ Airflow Speed Selection

- The airflow speed of the indoor fan is set to high, medium, low, or chaos (auto) by the input of the airflow speed selection key on the remote control.

■ Sleep Timer Operation

- When the sleep time is reached after <1,2,3,4,5,6,7,0(cancel) hr> is input by the remote control while in appliance operation, the operation of the appliance stops.
- While the appliance is on pause, the sleep timer mode cannot be input.
- While in cooling mode operation, 30 min later since the start of the sleep timer, the setting temperature increases by 1°C. After another 30 min elapse, it increases by 1°C again.
- When the sleep timer mode is input while in cooling cycle mode, the airflow speed of the indoor fan is set to the low.
- When the sleep timer mode is input while in heating cycle mode, the airflow speed of the indoor fan is set to the medium.

■ Chaos Natural Wind Mode

- When the Chaos Natural Wind mode is selected and then operated, the high, medium, or low speed of the airflow mode is operated for 2~15 sec. randomly by the Chaos Simulation.

■ Jet Cool Mode Operation (C/O Model)

- If the Jet Cool key is input at any operation mode while in appliance operation, the Jet Cool mode operates.
- In the Jet Cool mode, the indoor fan is operated at super-high speed for 30 min at cooling mode operation.
- In the Jet Cool mode operation, the room temperature is controlled to the setting temperature, 18°C
- When the sleep timer mode is input while in the Jet Cool mode operation, the Jet Cool mode has the priority.
- When the Jet Cool key is input, the upper/lower vanes are reset to those of the initial cooling mode and then operated in order that the air outflow could reach further.

■ Forced Operation

- Operation procedures when the remote control can't be used.
- The operation will be started if the power button is pressed.
- If you want to stop operation, re-press the button.

	Cooling Model	Heat pump Model		
		Room Temp. ≥ 24°C	21°C ≤ Room Temp. < 24 °C	Room Temp. < 21 °C
Operating mode	Cooling	Cooling	Healthy Dehumidification	Heating
Indoor FAN Speed	High	High	High	High
Setting Temperature	22°C	22°C	23°C	24°C

- While in forced operation, the key input by the remote control has no effect and the buzzer sounds 10 times to indicate the forced operation.

■ Test operation

- During the TEST OPERATION, the unit operates in cooling mode at high speed fan, regardless of room temperature and resets in 18±1 minutes.
- During test operation, if remote controller signal is received, the unit operates as remote controller sets.
If you want to use this operation, open the front panel upward and Press the power button let it be pressed for about 3 seconds.
- If you want to stop the operation, re-press the button.

■ Auto restart

- In case the power comes on again after a power failure, Auto Restarting Operation is the function to operate procedures automatically to the previous operating conditions.

■ Protection of the evaporator pipe from frosting

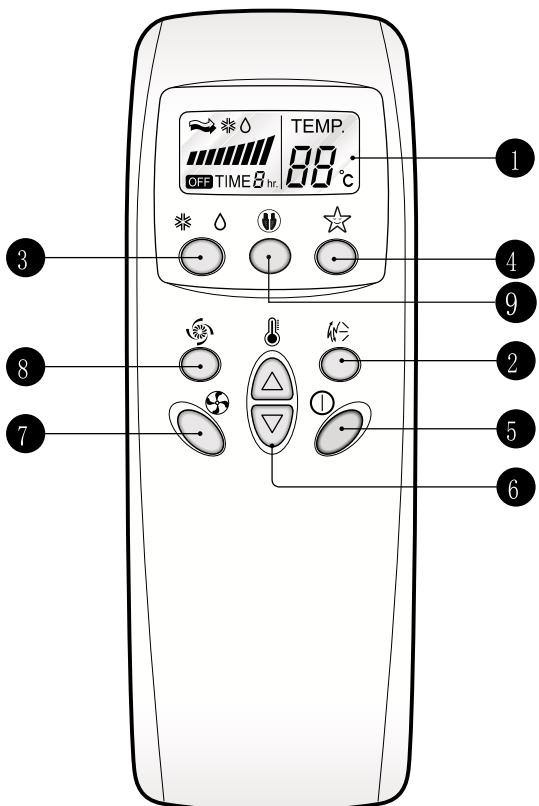
- If the indoor pipe temp is below 0°C in 7 min. after the compressor operates without any pause while in cooling cycle operation mode, the compressor and the outdoor fan are turned off in order to protect the indoor evaporator pipe from frosting.
- When the indoor pipe temp is 7°C or higher after 3 min. pause of the compressor, the compressor and the outdoor fan is turned on according to the condition of the room temperature.

■ Buzzer Sounding Operation

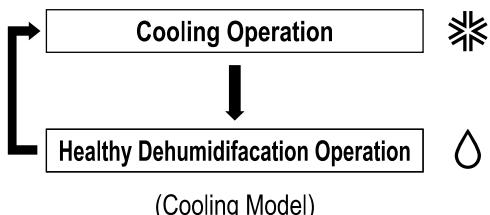
- When the appliance-operation key is input by the remote control, the short "beep-beep—" sounds.
- When the appliance-pause key is input by the remote control, the long "beep—" sounds.

Remote Control Operations

The controls will look like the following.



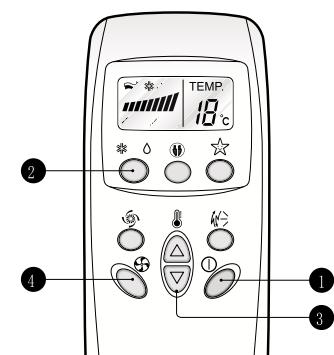
(1) Operation Mode



(Cooling Model)

(2) Operation PROCEDURE

- 1st** Start/Stop Button
- 2nd** Operation Mode Selection Button
- 3rd** Room Temperature Setting Button
- 4th** Indoor Fan Speed Selection Button



Disassembly

Indoor Unit

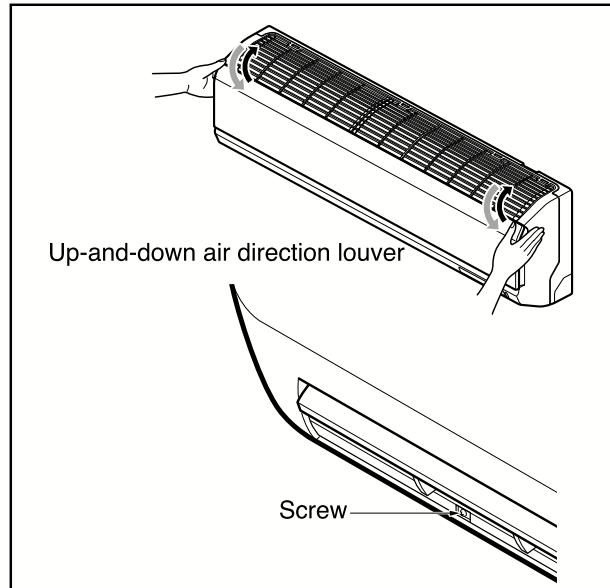
⚠ WARNING

Disconnect the unit from power supply before making any checks.

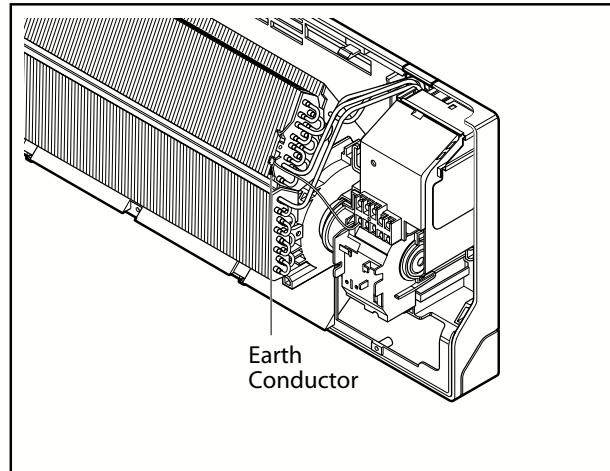
Be sure the power switch is set to "OFF".

To remove the Grille from the Chassis.

- Set the up-and-down air discharge louver to open position (horizontally) by finger pressure.
- Remove the securing screws.
- To remove the Grille, pull the lower left and right side of the grille toward you (slightly tilted) and lift it straight upward.



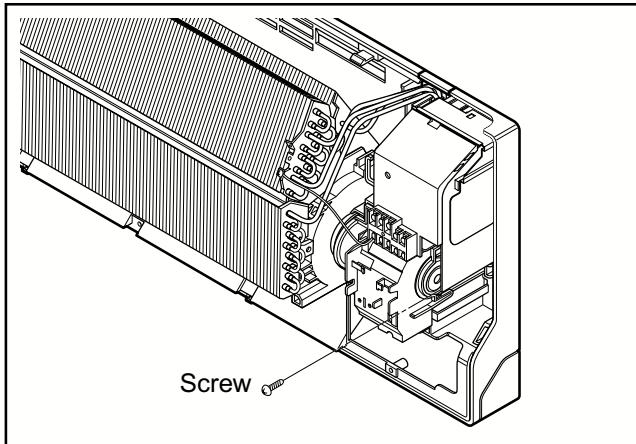
1. Before removing the control box, be sure to take out the wire screwed at the other end.



Disassembly

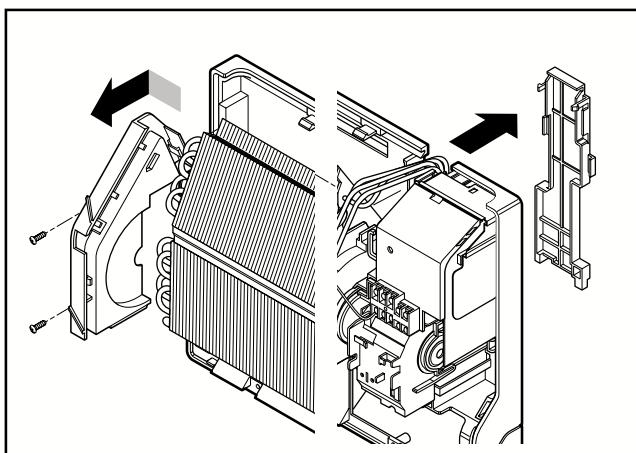
2. To remove the Control Box.

- Remove securing screws.
- Pull the control box out from the chassis carefully.



3. To remove the Discharge Grille.

- Unhook the discharge grille and pull the discharge grille out from the chassis carefully.

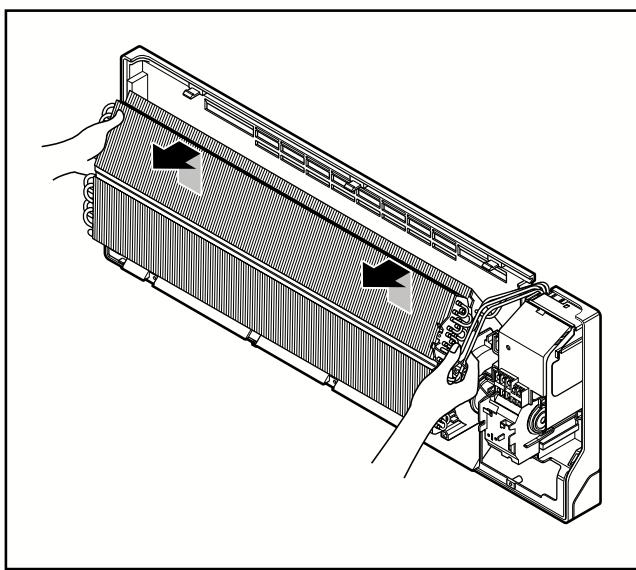


4. To remove the Evaporator.

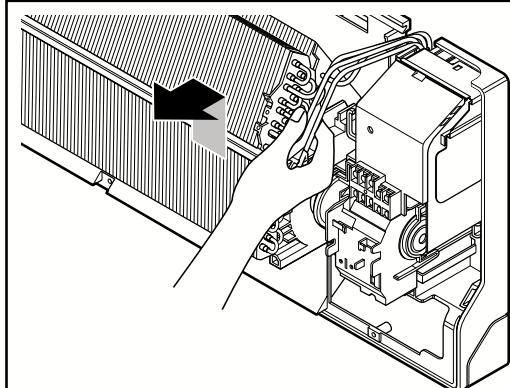
- Remove 3 screws securing the evaporator(at the left 2EA in the Eva Holder, at the right 1EA).

⚠ CAUTION

- When repair, do not damage the Caution label.

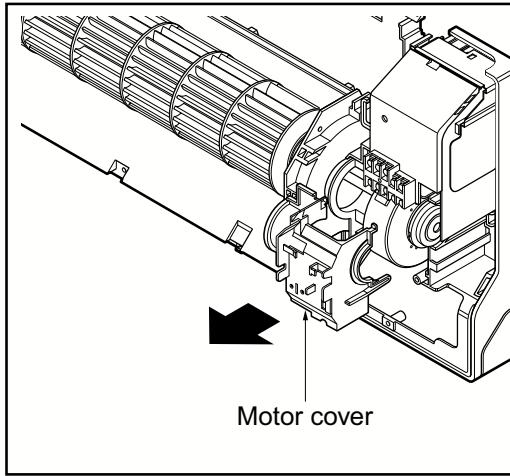


- Unhook the tab on the right inside of the chassis at the same time, slightly pull the evaporator toward you until the tab is clear of the slot.



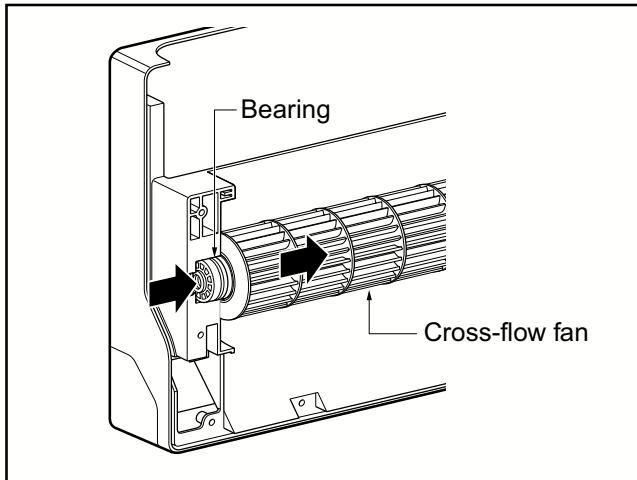
5. To remove the Motor Cover

- Remove 2 securing screw.
- Pull the motor cover out from the chassis carefully.



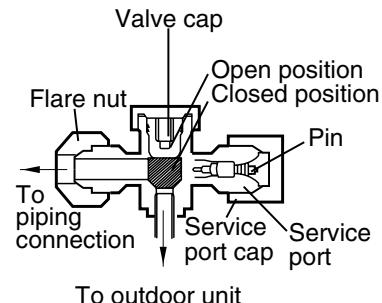
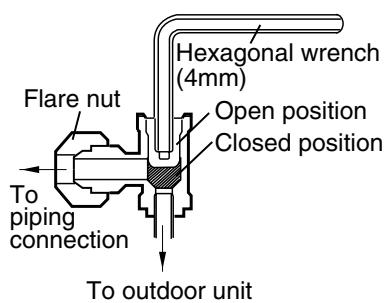
6. To remove the Cross-Flow Fan

- Loosen the screw securing the cross-flow fan to the fan motor (do not remove).
- Lift up the right side of the cross-flow fan and the fan motor, separate the fan motor from the cross-flow fan.
- Remove the left end of the cross-flow fan from the self-aligning bearing.

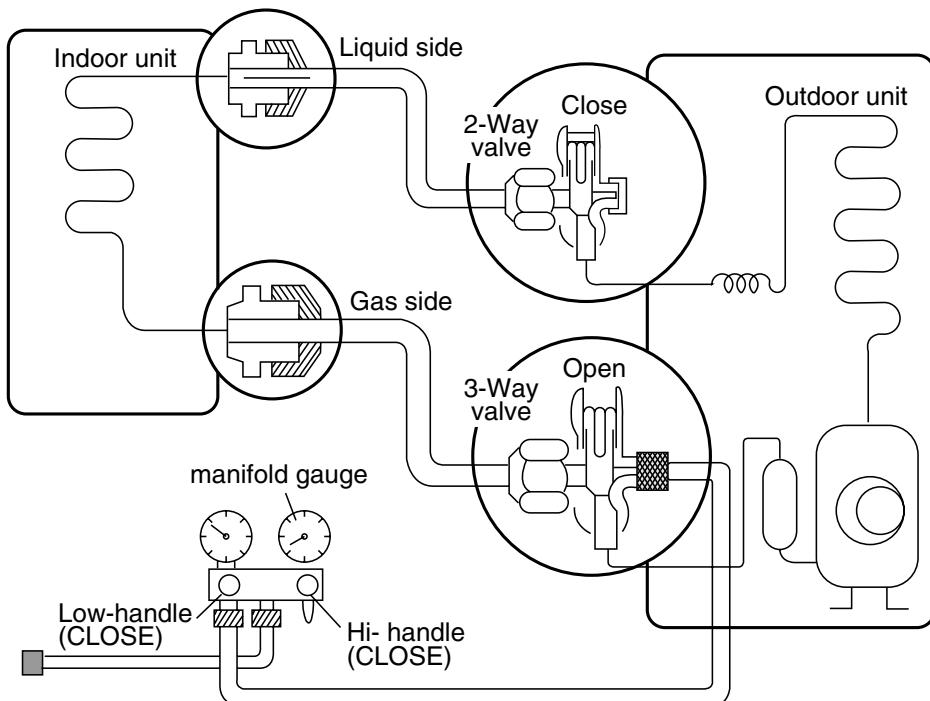


2-way, 3-way Valve

	2-way Valve (Liquid Side)	3-way Valve (Gas Side)	
Works	Shaft position	Shaft position	Service port
Shipping	Closed (with valve cap)	Closed (with valve cap)	Closed (with cap)
1. Air purging (Installation)	Open (counter-clockwise)	Closed (clockwise)	Open (push-pin or with vacuum pump)
Operation	Open (with valve cap)	Open (with valve cap)	Closed (with cap)
2. Pumping down (Transferring)	Closed (clockwise)	Open (counter-clockwise)	Open (connected manifold gauge)
3. Evacuation (Servicing)	Open	Open	Open (with charging cylinder)
4. Gas charging (Servicing)	Open	Open	Open (with charging cylinder)
5. Pressure check (Servicing)	Open	Open	Open (with charging cylinder)
6. Gas releasing (Servicing)	Open	Open	Open (with charging cylinder)



(1) Pumping down

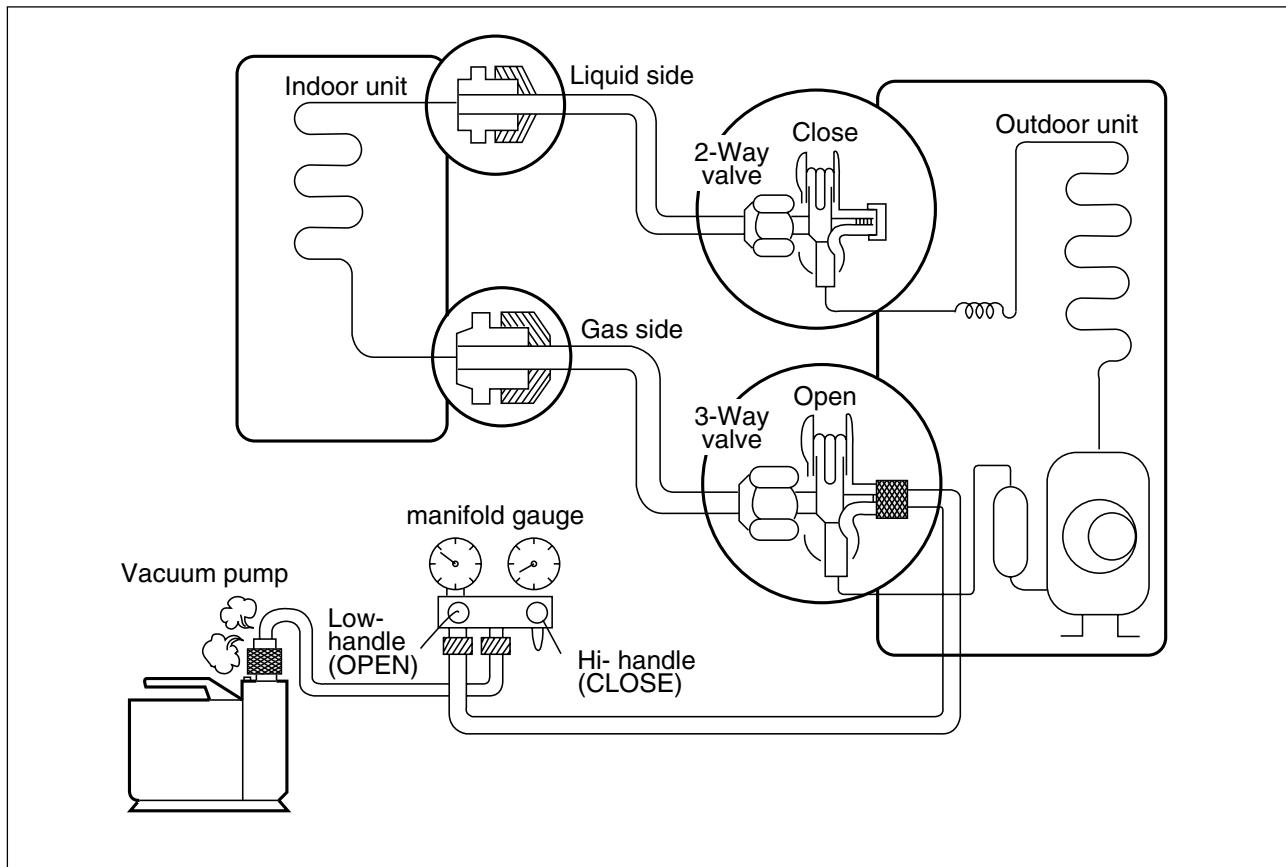


• Procedure

1. **Confirm that both the gas side and liquid side valves are set to the open position.**
 - Remove the valve stem caps and confirm that the valve stems are in the raised position.
 - Be sure to use a hexagonal wrench to operate the valve stems.
2. **Operate the unit for 10 to 15 minutes.**
3. **Stop operation and wait for 3 minutes, then connect the manifold gauge to the service port of the gas side valve.**
 - Connect the hose of the gauge with the push pin to the service port.
4. **Air purging of the charge hose.**
 - Open the Low-handle valve on the gauge slightly to air purge from the hose.
5. **Set the liquid side valve to the closed position.**
6. **Operate the air conditioner at the cooling cycle and stop it when the gauge indicates 1kg/cm²g.**
7. **Immediately set the gas side valve to the closed position.**
 - Do this quickly so that the gauge ends up indicating 1kg/cm²g.
8. **Disconnect the charge set, and mount the liquid side and gas side valve caps and the service port nut.**
 - Use torque wrench to tighten the service port nut to a torque of 1.8kg.m.(4.2kg*m/5.5kg*m)
 - Be sure to check for gas leakage.

(2) Evacuation

(All amount of refrigerant leaked)

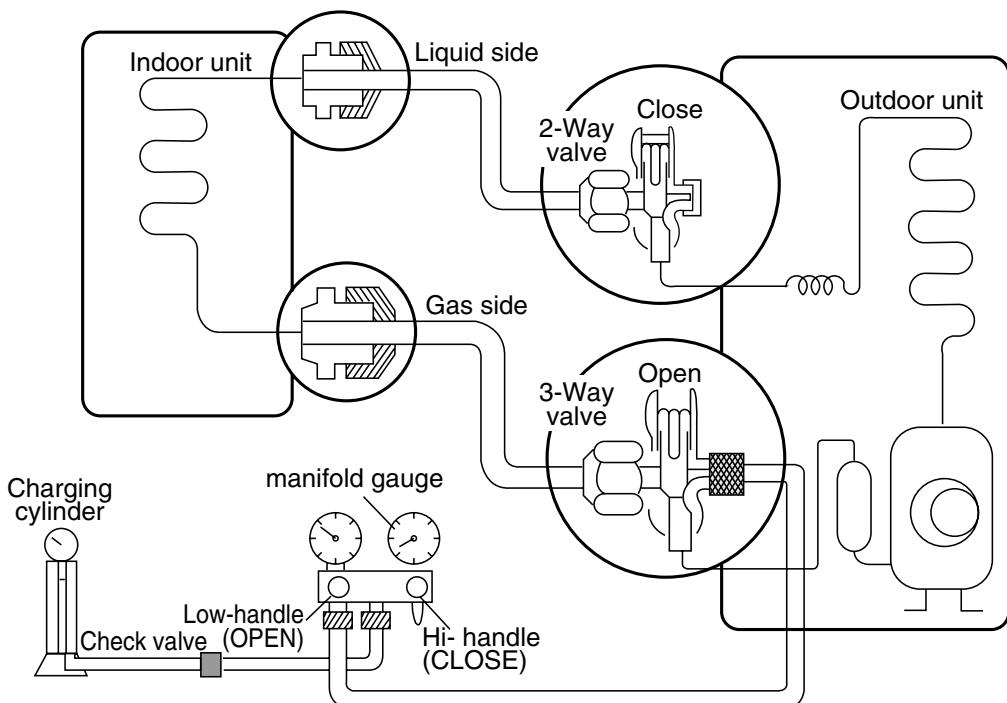


• Procedure

1. Confirm that both the liquid side valve and gas side valve are set to the opened position.
2. Connect the vacuum pump to the center hose of the manifold gauge.
3. Connect the service port of the gas side valve to the low side of the gauge.
4. Connect power supply to outdoor unit.
5. Evacuation for approximately one hour.
 - Confirm that the gauge needle has moved toward -76 cmHg (vacuum of 4 mmHg or less).
6. Close the Low handle of the gauge turn off the vacuum pump, and confirm that the gauge needle does not move(approximately 5 minutes after turning off the vacuum pump).
7. Disconnect the charge hose from the vacuum pump.
 - Vacuum pump oil.
If the vacuum pump oil becomes dirty or depleted, replenish as needed.
8. Mount the valve caps and the service port caps.

(3) Gas Charging

(After Evacuation)



• Procedure

1. Connect the gauge to the charging cylinder.

- Connect the charge hose which you disconnected from the vacuum pump to the valve at the bottom of the cylinder.
- If you are using a gas cylinder, also use a scale and reverse the cylinder so that the system can be charged with liquid.

2. Purge the air from the charge hose.

- Open the valve at the bottom of the cylinder and press the check valve on the charge set to purge the air. (Be careful of the liquid refrigerant). The procedure is the same if using a gas cylinder.

3. Open the low handle on the gauge and charge the system with liquid refrigerant.

- If the system can not be charged with the specified amount of refrigerant, it can be charged with a little at a time (approximately 150g each time) while operating the air conditioner in the cooling cycle; however, one time is not sufficient, wait approximately 1 minute and then repeat the procedure(pumping down-pin).

4. Immediately disconnect the charge hose from the gas side valve's service port.

This is different from previous procedures. Because you are charging with liquid refrigerant from the gas side, absolutely do not attempt to charge with larger amounts of liquid refrigerant while operating the air conditioner.

- Stopping partway will allow the gas to be discharged.

- If the system has been charged with liquid refrigerant while operating the air conditioner turn off the air conditioner before disconnecting the hose.

5. Mount the valve stem nuts and the service port nut.

- Use torque wrench to tighten the service port nut to a torque of 1.8 kg.m.(4.2kg.m/5.5kg.m.)
- Be sure to check for gas leakage.

Cycle Troubleshooting Guide

Trouble analysis

- Check temperature difference between intake and discharge air and operating current.

Temp. Difference	Temp. difference : approx. 0°C Current : less than 80% of rated current	All amount of refrigerant leaked out. Check refrigeration cycle.
	Temp. difference : approx. 8°C Current : less than 80% of rated current	Refrigerant leakage Clog of refrigeration cycle Defective compressor
Operating Current	Temp. difference : less than 8°C Current : over the rated current	Excessive amount of refrigerant
	Temp. difference : over 8°C	Normal

Notice:

Temperature difference between intake and discharge air depends on room air humidity. When the room air humidity is relatively higher, temperature difference is smaller. When the room air humidity is relatively lower temperature difference is larger.

- Check temperature and pressure of refrigeration cycle.

Suction pressure (Compared with the normal value)	Temperature (Compared with the normal value)	Cause of Trouble	Description
Higher	High	Defective compressor	Current is low.
	Normal	Excessive amount of refrigerant	High pressure does not quickly rise at the beginning of operation.
Lower	Higher	Insufficient amount of refrigerant(Leakage) Clogging	Current is low. Current is low.

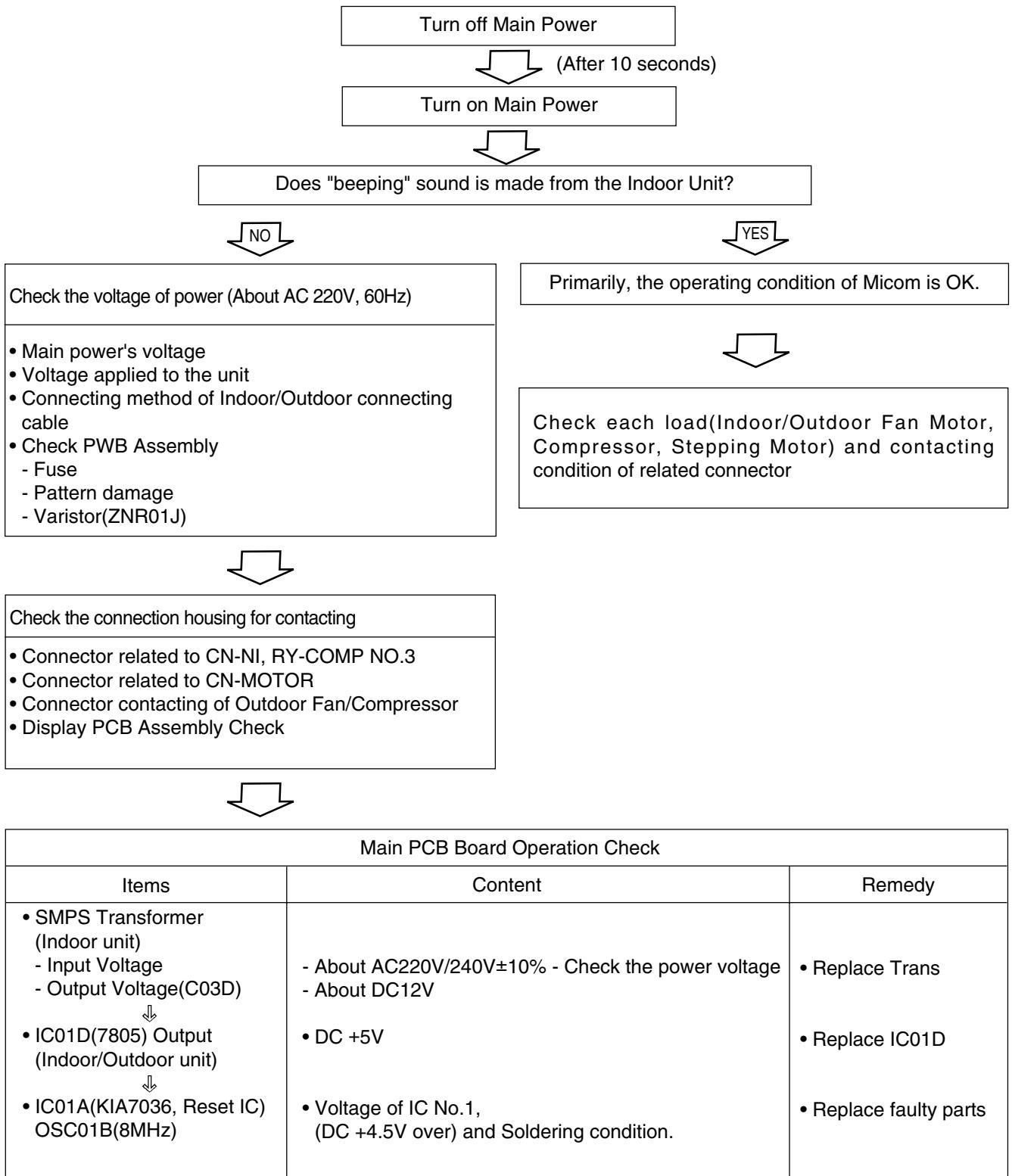
Notice:

- The suction pressure is usually 4.5~6.0 kg/cm²G at normal condition.
- The temperature can be measured by attaching the thermometer to the low pressure tubing and wrap it with putty.

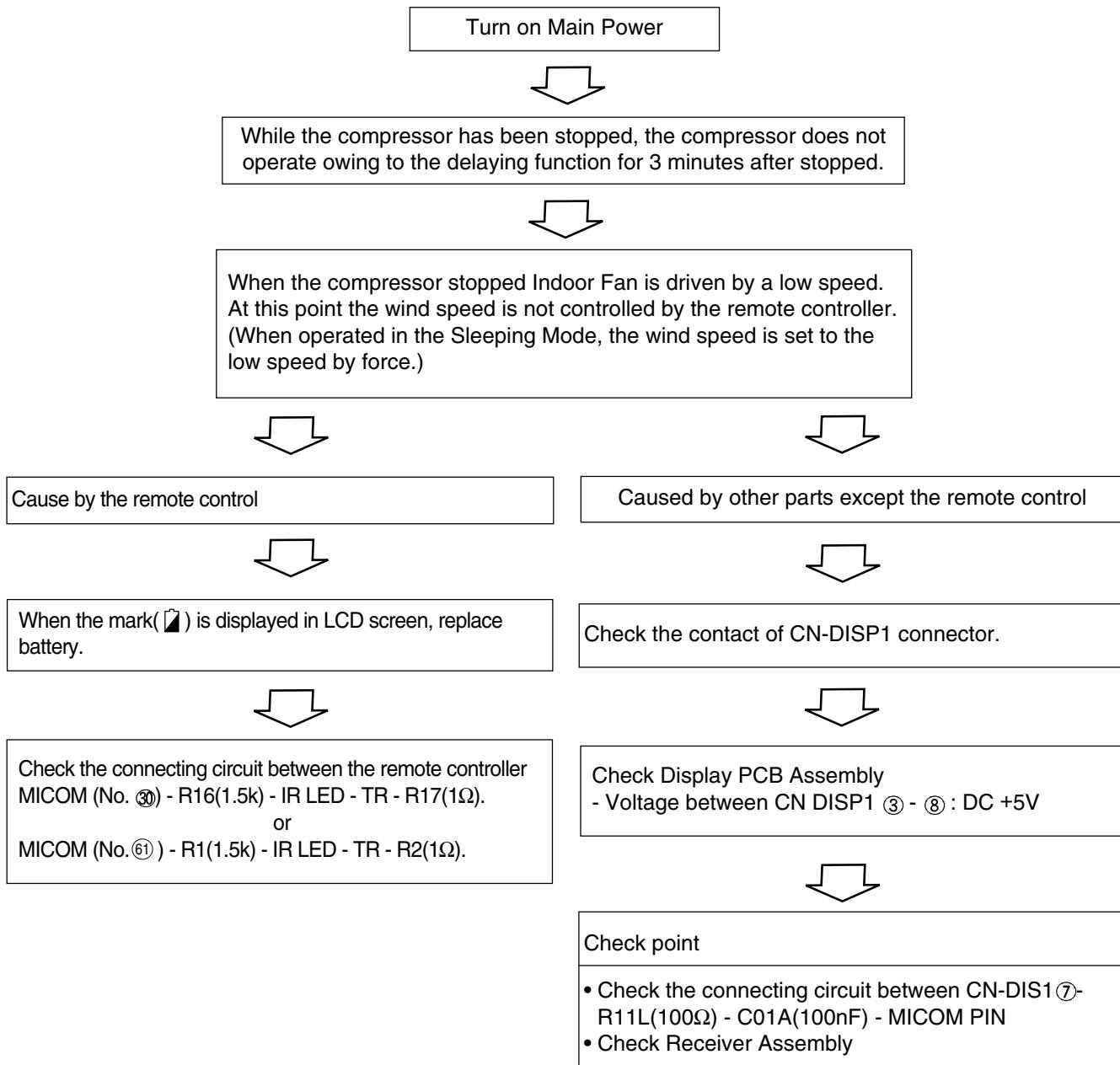
Electronic Parts

Product does not operate at all.

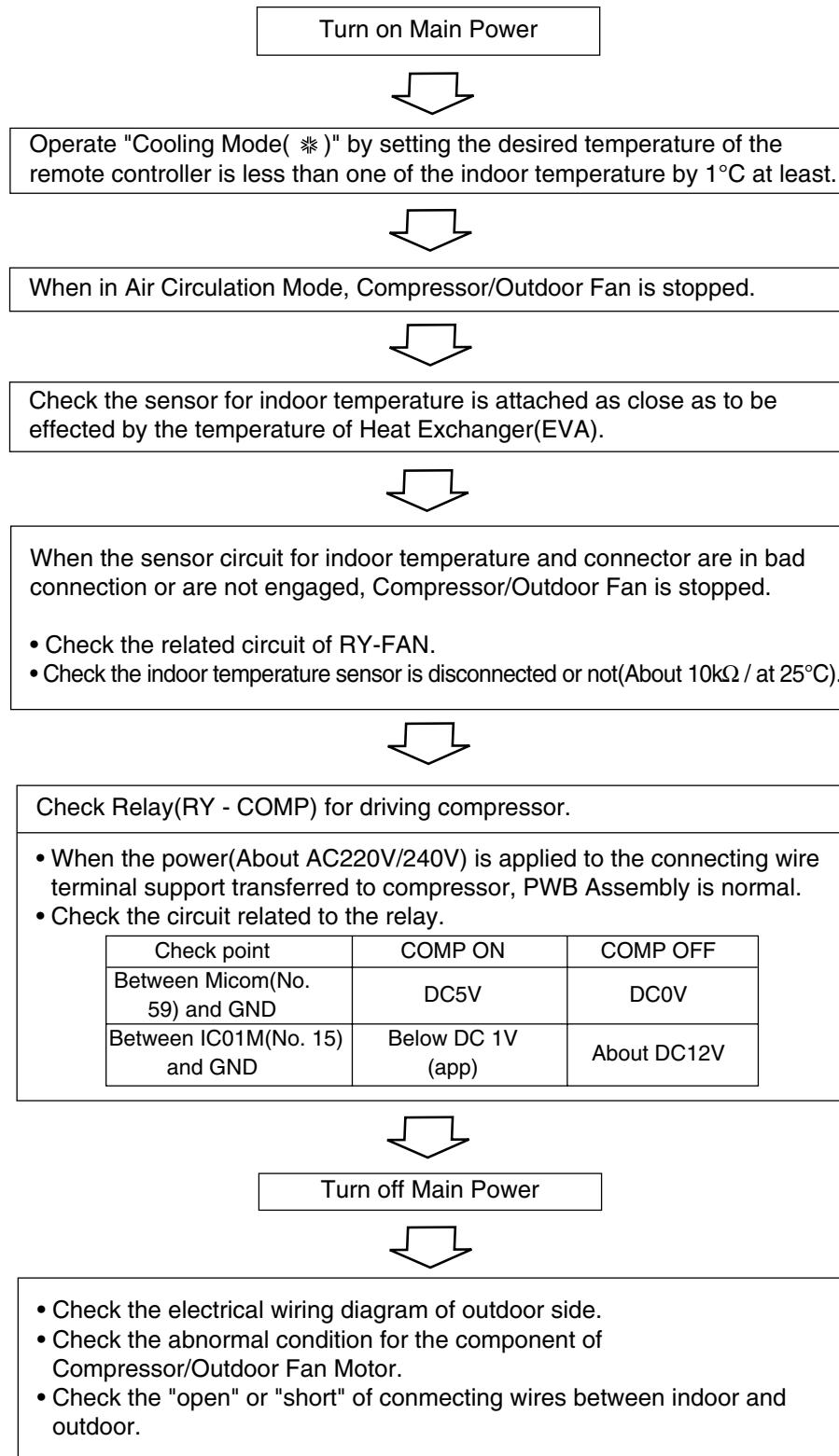
(* Refer to Electronic Control Device drawing and Schematic diagram.)



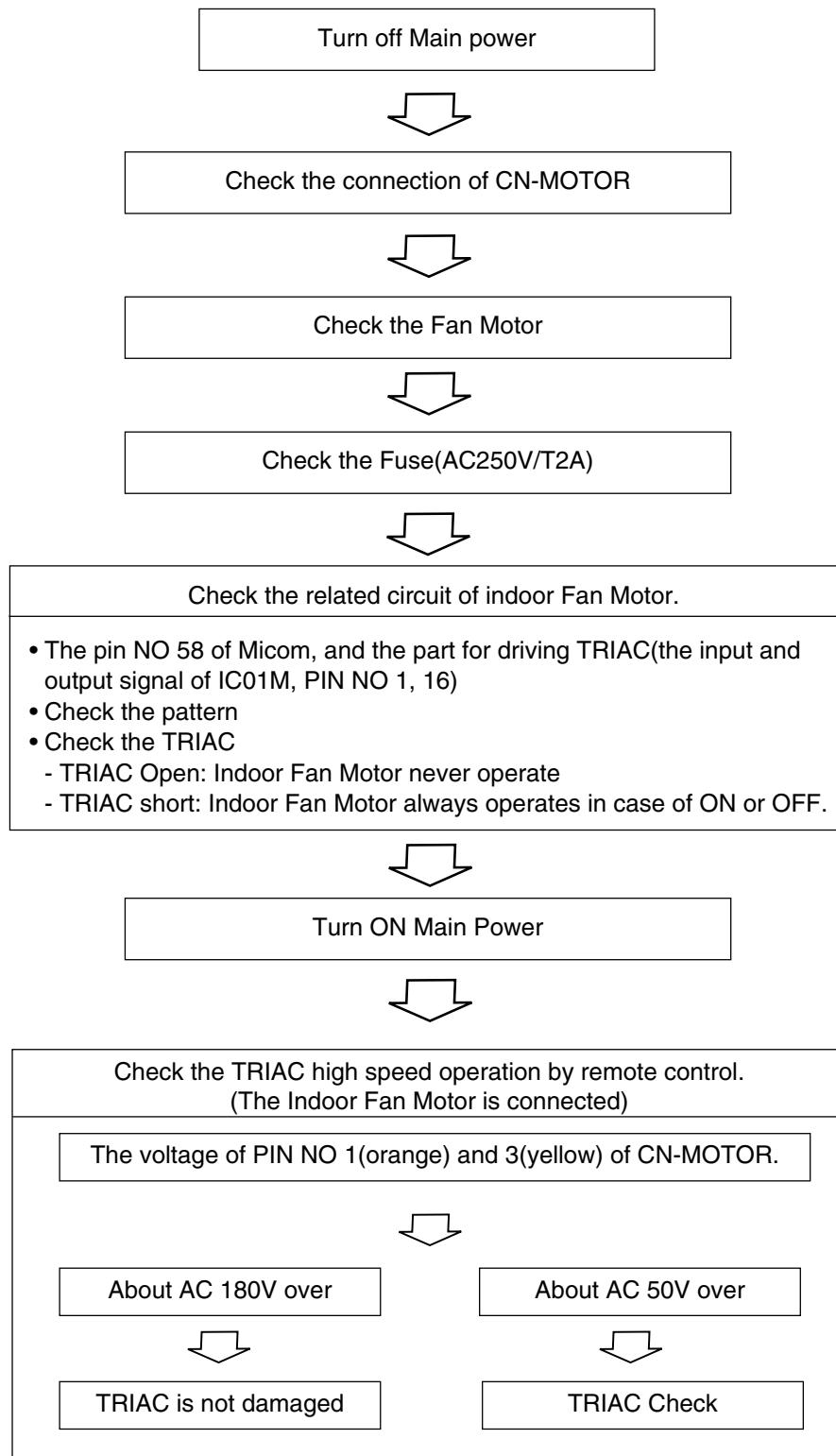
The product is not operate with the remote controller.



Compressor/Outdoor Fan are unable to drive.



When indoor Fan does not operate.



When Vertical Louver does not operate.

- Confirm that the Vertical Louver is normally geared with the shaft of Stepping Motor.
- If the regular torque is detected when rotating the Vertical Louver with hands ⇒ Normal



- Check the connecting condition of CN-U/D Connector
- Check the soldering condition(on PWB) of CN-U/D Connector



Check the operating circuit of the Vertical Louver

- Confirm that there is DC +12V between pin⑤(RED) of CN-U/D and GND.
- Confirm that there is a soldering short at following terminals.
 - Between ⑥0, ⑥1, ⑥2 and ⑥3 of MICOM
 - Between ③, ④, ⑤and ⑥ of IC01M
 - Between ⑯4, ⑯3,⑯2 and ⑯1 of IC01M



If there are no problems after above checks

- Confirm the assembly conditions that are catching and interfering parts in the rotation radial of the Vertical Louver

Installation

Select the best Location

Indoor unit

1. Do not have any heat or steam near the unit.
2. Select a place where there are no obstacles in front of the unit.
3. Make sure that condensation drainage can be conveniently routed away.
4. Do not install near a doorway.
5. Ensure that the interval between a wall and the left (or right) of the unit is more than 50cm. The unit should be installed as high as possible on the wall, allowing a minimum of 10cm from ceiling.
6. Use a stud finder to locate studs to prevent unnecessary damage to the wall.

CAUTION

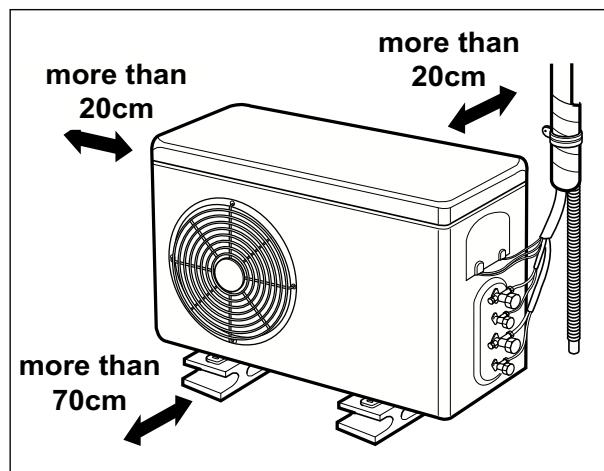
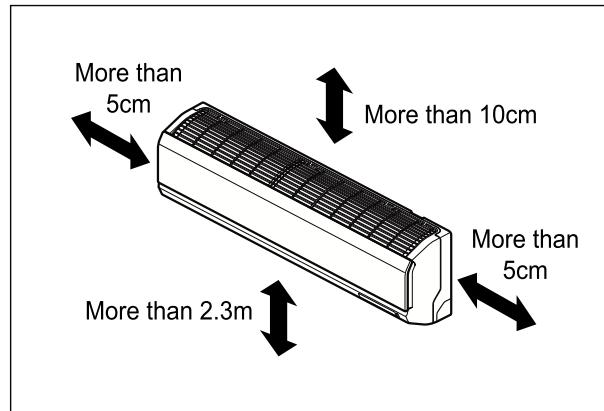
Install the indoor unit on the wall where the height from the floor is more than 2 meters.

Outdoor unit

1. If an awning is built over the unit to prevent direct sunlight or rain exposure, make sure that heat radiation from the condenser is not restricted.
2. Ensure that the spaces indicated by arrows around front, back and side of the unit.
3. Do not place animals and plants in the path of the warm air.
4. Take the air conditioner weight into account and select a place where noise and vibration are minimum.
5. Select a place so that the warm air and noise from the air conditioner do not disturb neighbors.

Rooftop Installations:

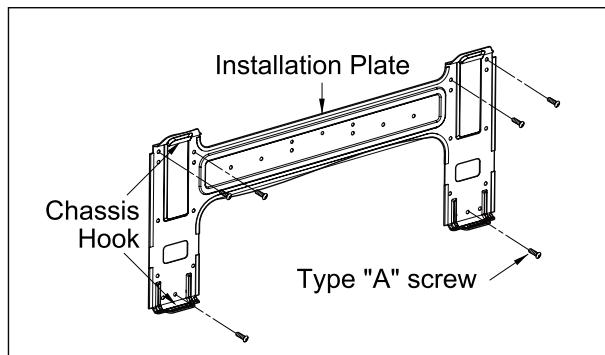
If the outdoor unit is installed on a roof structure, be sure to level the unit. Ensure the roof structure and anchoring method are adequate for the unit location. Consult local codes regarding rooftop mounting.



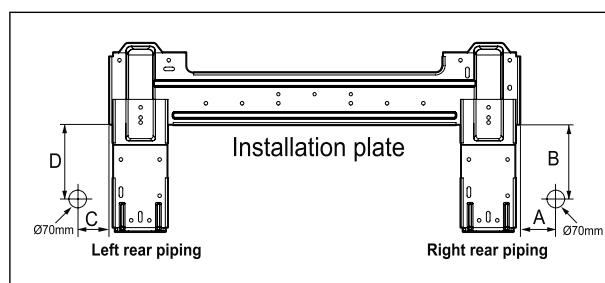
Fixing Installation Plate

The wall you select should be strong and solid enough to prevent vibration

1. Mount the installation plate on the wall with type "A" screws. If mounting the unit on a concrete wall, use anchor bolts.
- Mount the installation plate horizontally by aligning the centerline using a level.



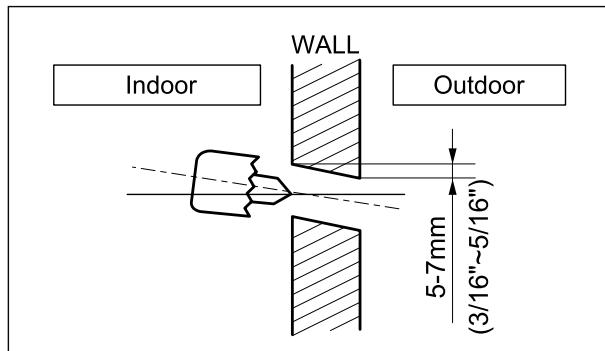
2. Measure the wall and mark the centerline. It is also important to use caution concerning the location of the installation plate-routing of the wiring to power outlets is through the walls typically. Drilling the hole through the wall for piping connections must be done safely.



CHASSIS (Grade)	Distance (mm)			
	A	B	C	D
SY	50	105	59	105

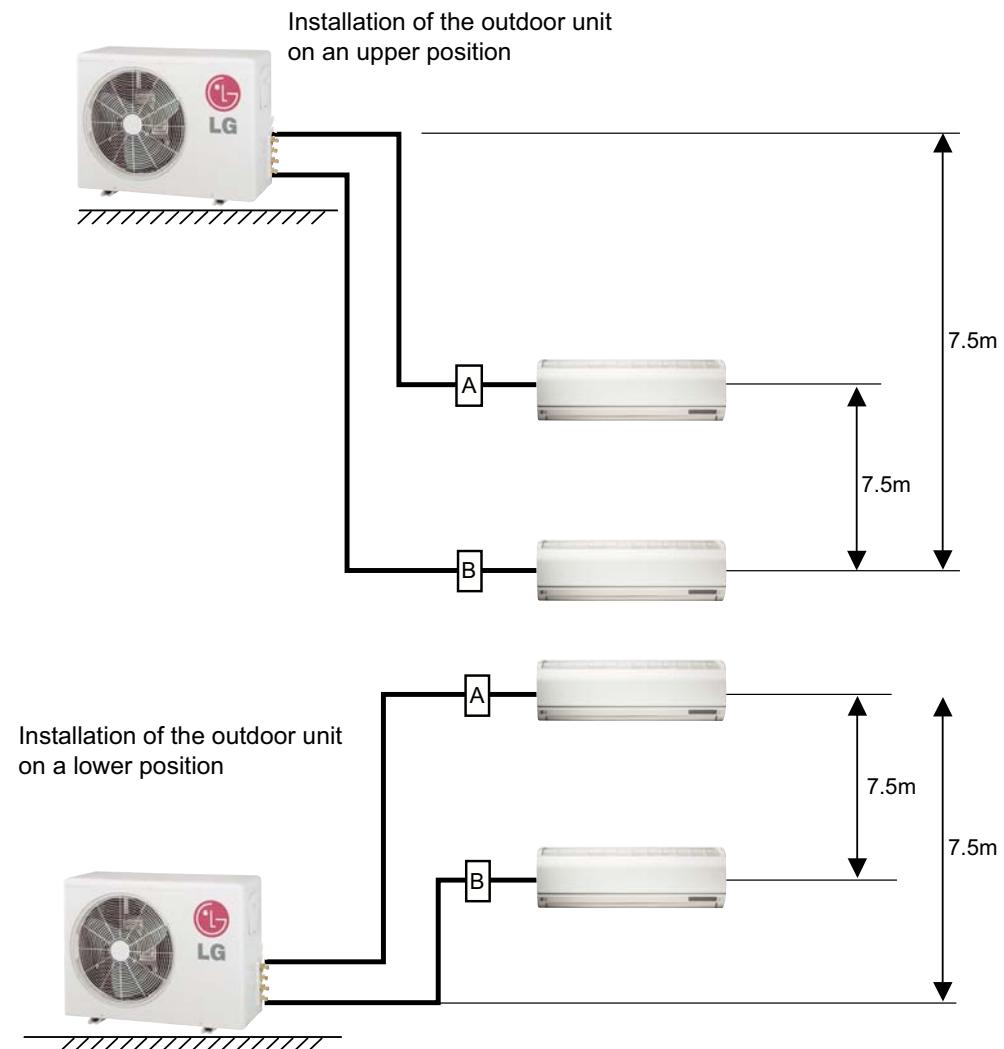
Drill a Hole in the Wall

- Drill the piping hole with a ø70mm hole core drill. Drill the piping hole at either the right or the left with the hole slightly slanted to the outdoor side.



Piping Length and Elevation

- The maximum allowable level and piping length



Model [Outdoor unit]	Standard length A,B	Max. piping length of each indoor unit			Max. total piping length
		A	B	C	
T2UC182FAA T2UC242FAA	7.5m	15m	15m	-	30m (A+B)

Refrigerant Charge

Indoor Unit Capacity (Btu/h)	Pipe Size		Rated Length	Max Length	Additional Refrigerant
	Gas	Liquid			
18k	3/8"(9.52mm)	1/4"(6.35mm)	7.5	15	20g/m
24k	1/2"(12.7mm)	1/4"(6.35mm)	7.5	15	30g/m

* Extra refrigerant = (Extended length - Rated length) x Additional refrigerant

Flaring work and connection of piping

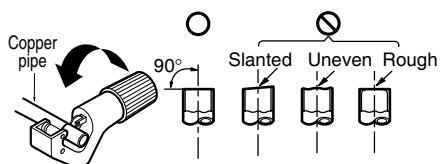
Flaring work

Flaring work

Main cause for refrigerant leakage is due to defect in the flaring work. Carry out correct flaring work using the following procedure.

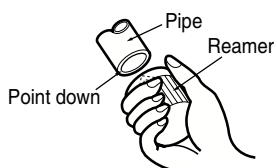
Cut the pipes and the cable.

- Use the piping kit accessory or pipes purchased locally.
- Measure the distance between the indoor and the outdoor unit.
- Cut the pipes a little longer than the measured distance.
- Cut the cable 1.5m longer than the pipe length.



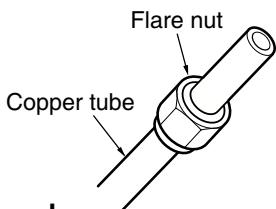
Burr removal

- Completely remove all burrs from the cut cross section of pipe/tube.
- Put the end of the copper tube/pipe in a downward direction as you remove burrs in order to avoid dropping burrs into the tubing.



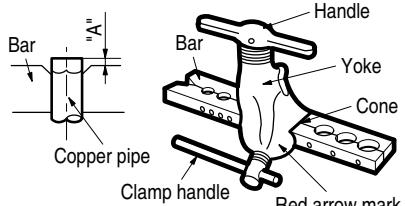
Putting nut on

- Remove flare nuts attached to indoor and outdoor unit, then put them on pipe/tube having completed burr removal. (not possible to put them on after flaring work)



Flaring work

- Firmly hold copper pipe in a die in the dimension shown in the table above.

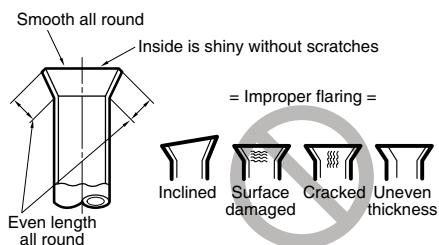


- Carry out flaring work using flaring tool as shown below.

Outside diameter mm	inch	A mm
Ø6.35	1/4	0~0.5
Ø9.52	3/8	0~0.5
Ø12.7	1/2	0~0.5
Ø15.88	5/8	0~1.0
Ø19.05	3/4	1.0~1.3

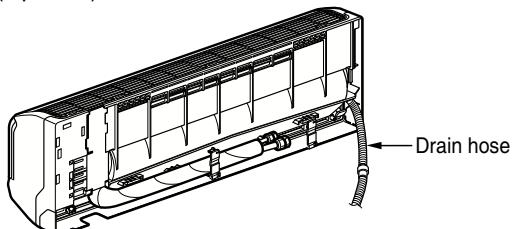
Check

- Compare the flared work with figure below.
- If flare is noted to be defective, cut off the flared section and re-flare it.



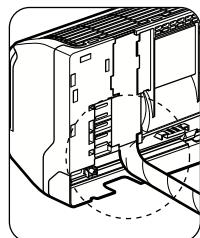
Connection of piping -- Indoor

- Preparing the indoor unit's piping and drain hose for installation through the wall.
- Remove the plastic tubing retainer(see illustration below) and pull the tubing and drain hose away from chassis.
- Replace the plastic tubing holder in the original position.(Optional)



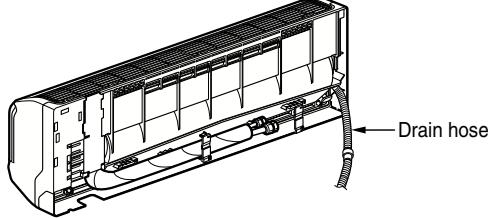
CAUTION

When install, make sure that the remaining parts must be removed clearly so as not to damage the piping and drain hose, especially power cord and connecting cable.



For right rear piping

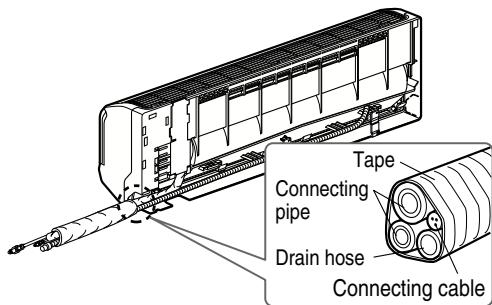
Route the indoor tubing and the drain hose in the direction of rear right.



Insert the connecting cable into the indoor unit from the outdoor unit through the piping hole.

- Do not connect the cable to the indoor unit.
- Make a small loop with the cable for easy connection later.

Tape the tubing, drain hose, and the connecting cable. Be sure that the drain hose is located at the lowest side of the bundle. Locating at the upper side can cause drain pan to overflow inside the unit.

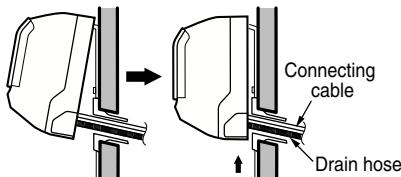


NOTE: If the drain hose is routed inside the room, insulate the hose with an insulation material* so that dripping from "sweating"(condensation) will not damage furniture or floors.

*Foamed polyethylene or equivalent is recommended.

Indoor unit installation

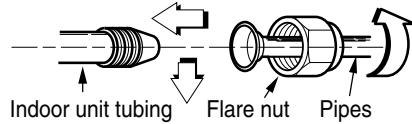
- Hook the indoor unit onto the upper portion of the installation plate.(Engage the two hooks of the rear top of the indoor unit with the upper edge of the installation plate.) Ensure that the hooks are properly seated on the installation plate by moving it left and right.



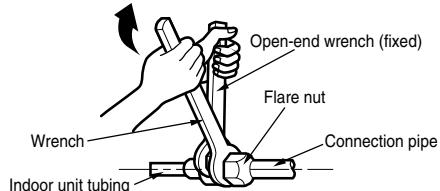
Press the lower left and right sides of the unit against the installation plate until the hooks engage into their slots(clicking sound).

Connecting the pipings to the indoor unit and drain hose to drain pipe.

- Align the center of the pipes and sufficiently tighten the flare nut by hand.

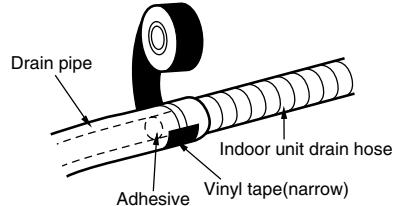


- Tighten the flare nut with a wrench.



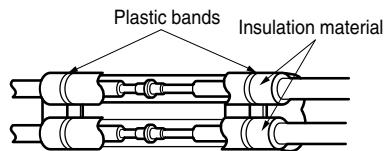
Outside diameter	Torque	
mm	inch	kg·m
Ø6.35	1/4	1.8
Ø9.52	3/8	4.2
Ø12.7	1/2	5.5
Ø15.88	5/8	6.6
Ø19.05	3/4	6.6

- When extending the drain hose at the indoor unit, install the drain pipe.

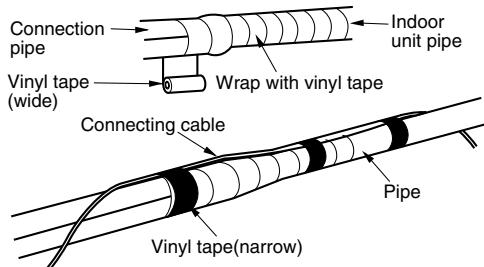


Wrap the insulation material around the connecting portion.

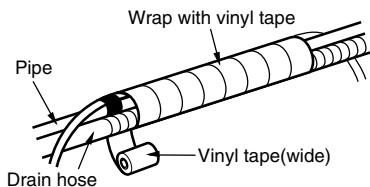
- Overlap the connection pipe insulation material and the indoor unit pipe insulation material. Bind them together with vinyl tape so that there is no gap.



- Wrap the area which accommodates the rear piping housing section with vinyl tape.

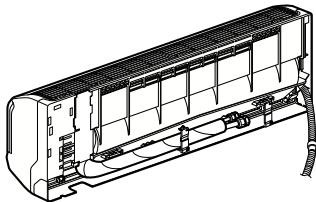


- Bundle the piping and drain hose together by wrapping them with vinyl tape for enough to cover where they fit into the rear piping housing section.

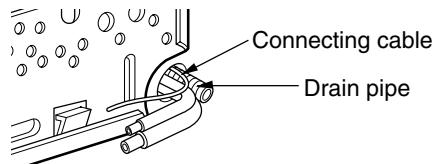


For left rear piping

Route the indoor tubing and the drain hose to the required piping hole position.



Insert the piping, drain hose, and the connecting cable into the piping hole.

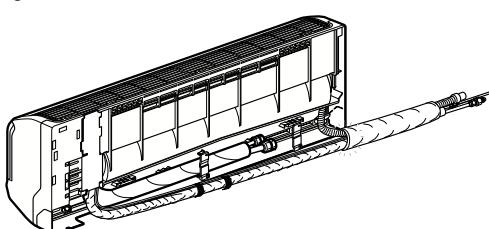


Insert the connecting cable into the indoor unit.

- Don't connect the cable to the indoor unit.
- Make a small loop with the cable for easy connection later.

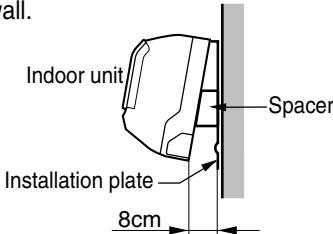
Tape the drain hose and the connecting cable.

- Connecting cable



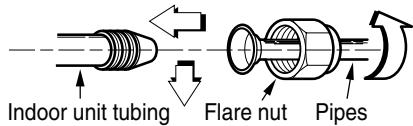
Indoor unit installation

- Hang the indoor unit from the hooks at the top of the installation plate.
- Insert the spacer etc. between the indoor unit and the installation plate and separate the bottom of the indoor unit from the wall.

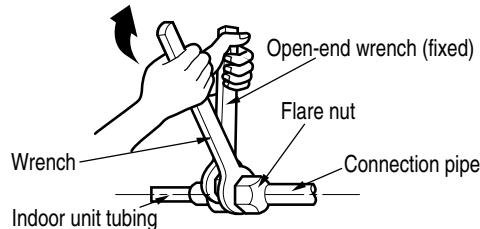


Connecting the pipings to the indoor unit and the drain hose to drain pipe.

- Align the center of the pipes and sufficiently tighten the flare nut by hand.

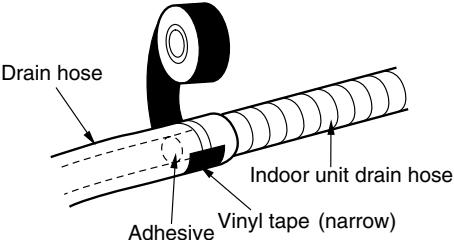


- Tighten the flare nut with a wrench.



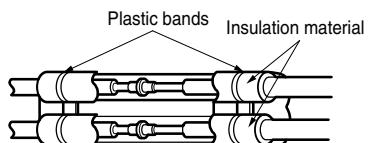
Outside diameter		Torque
mm	inch	kg·m
Ø6.35	1/4	1.8
Ø9.52	3/8	4.2
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Ø15.88	5/8	6.6
Ø19.05	3/4	6.6

- When extending the drain hose at the indoor unit, install the drain pipe.



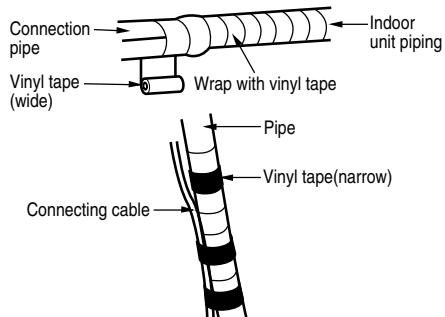
Wrap the insulation material around the connecting portion.

- Overlap the connection pipe heat insulation and the indoor unit pipe heat insulation material. Bind them together with vinyl tape so that there is no gap.

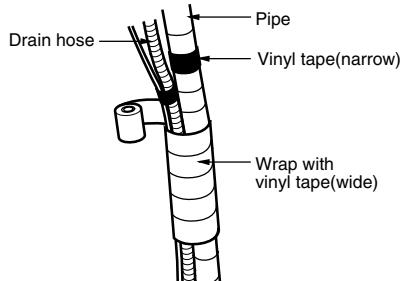


Flaring work and connection of piping

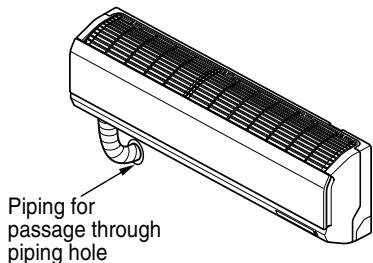
- Wrap the area which accommodates the rear piping housing section with vinyl tape.



- Bundle the piping and drain hose together by wrapping them with cloth tape over the range within which they fit into the rear piping housing section.

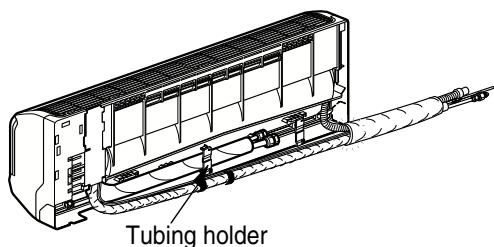


Reroute the pipings and the drain hose across the back of the chassis.



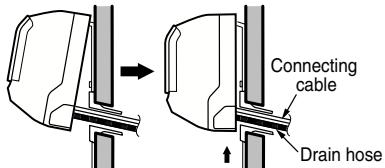
Set the pipings and the drain hose to the back of the chassis with the tubing holder.

- Hook the edge of tubing holder to tap on chassis and push the bottom of tubing holder to be engaged at the bottom of chassis.



Indoor unit installation

- Remove the spacer.
- Ensure that the hooks are properly seated on the installation plate by moving it left and right.

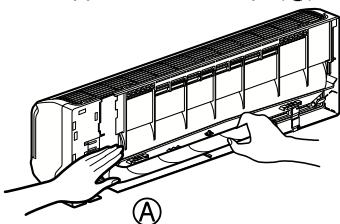


Press the lower left and right sides of the unit against the installation plate until the hooks engage into their slots(clicking sound).

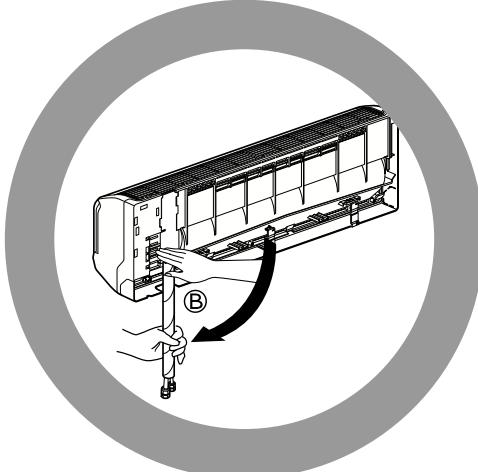
▲ CAUTION

Installation Information (For left piping)

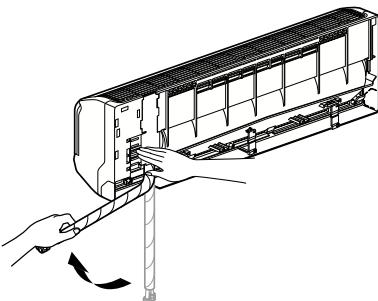
- Good case
For left piping. Follow the instruction below.
- Press on the upper side of clamp. (Ⓐ)



- Unfold the tubing to downward slowly. (Ⓑ)

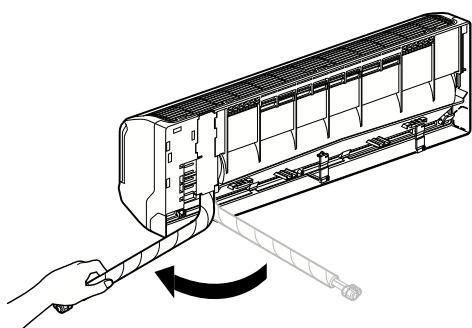
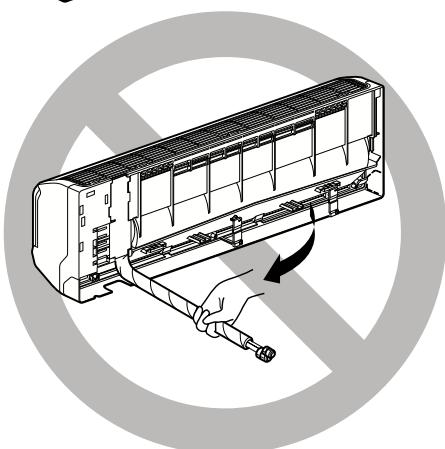
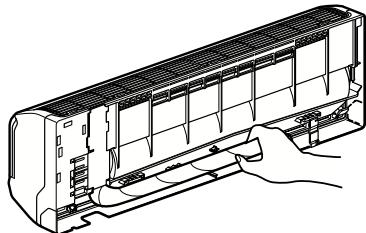


- Bend the tubing to the left side of chassis.



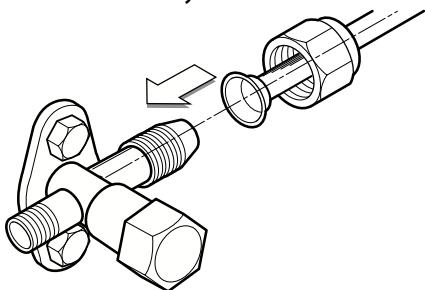
⚠ CAUTION

- Bad case
- Following bending type from right to left could cause problem of pipe damage.



Connection of the pipes-Outdoor

Align the center of the pipings and sufficiently tighten the flare nut by hand.

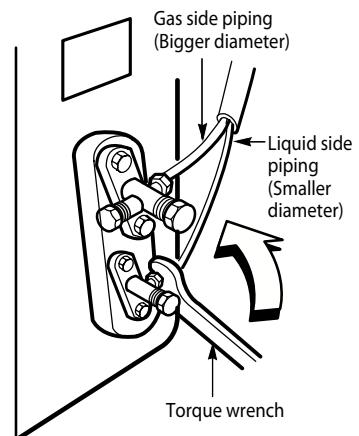


Finally, tighten the flare nut with torque wrench until the wrench clicks.

- When tightening the flare nut with torque wrench, ensure the direction for tightening follows the arrow on the wrench.

Outside diameter		Torque
mm	inch	kg·m
Ø6.35	1/4	1.8
Ø9.52	3/8	4.2
Ø12.7	1/2	5.5
Ø15.88	5/8	6.6
Ø19.05	3/4	6.6

Outdoor unit



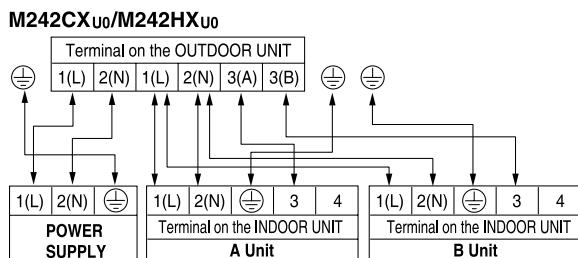
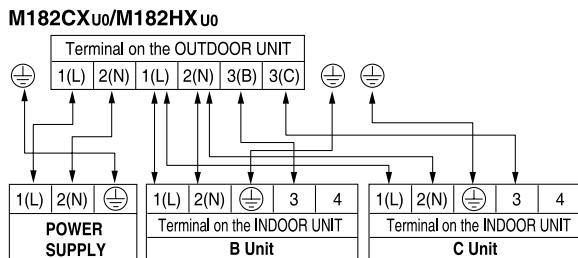
Connecting the cable between indoor unit and outdoor unit

Connect the cable to the Indoor unit.

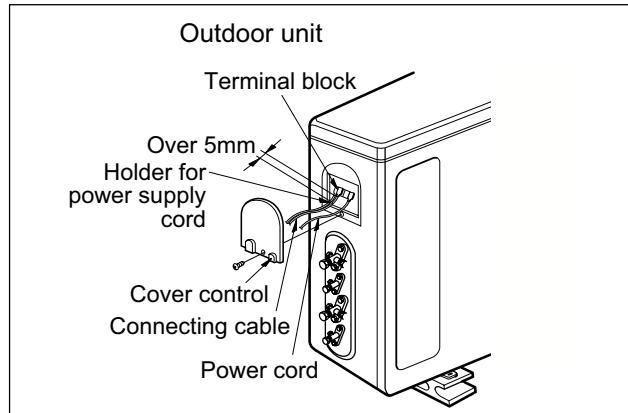
Connection of the cable

1. Remove the cover control from the unit by loosening the screw.

Connect the wires to the terminals on the control board individually as the following.



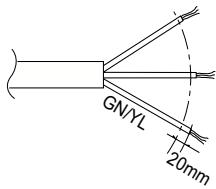
2. Secure the cable onto the control board with the holder (clamper).
3. Refix the cover control to the original position with the screw.
4. Use a recognized circuit breaker between the power source and the unit. A disconnection device to adequately disconnect all supply lines must be fitted.



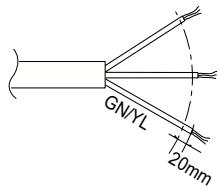
⚠ CAUTION

The power cord connected to the outdoor unit should be complied with the following specifications (ETL recognized and CSA certified).

T2UC182FAA



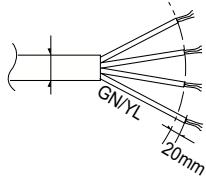
T2UC242FAA



NORMAL CROSS-SECTIONAL AREA	Grade	
	T2UC182FAA	T2UC242FAA
	2.5	2.5
Cable Type(B)	H07RN-F	H07RN-F

(mm²)

The power connecting cable connected to the indoor and outdoor unit should be complied with the following specifications.

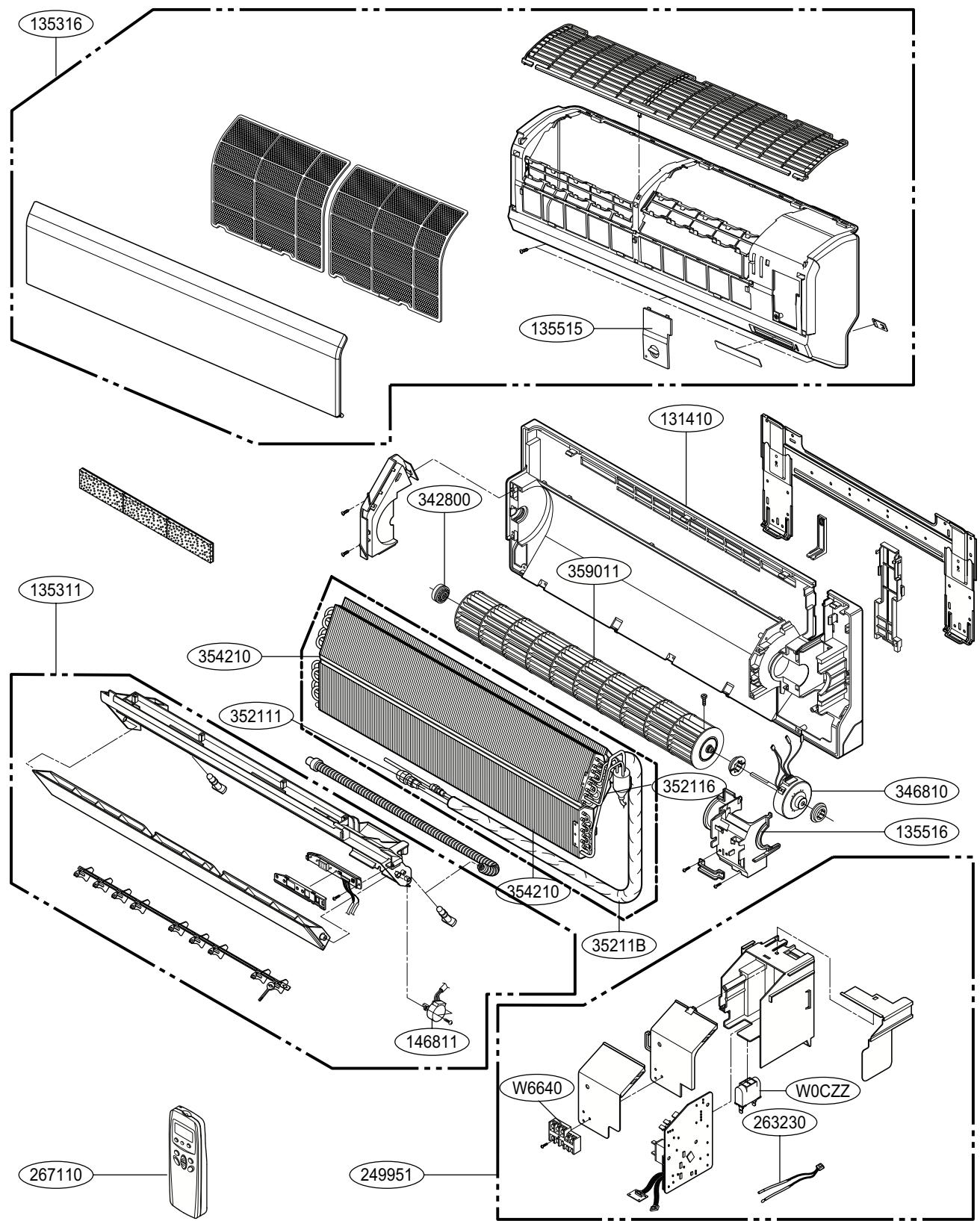


NORMAL CROSS-SECTIONAL AREA	Grade	
	0.75	
Cable Type(B)	H07RN-F	

(mm²)

Exploded View and Replacement Parts List

Indoor Unit



Exploded View and Replacement Parts List

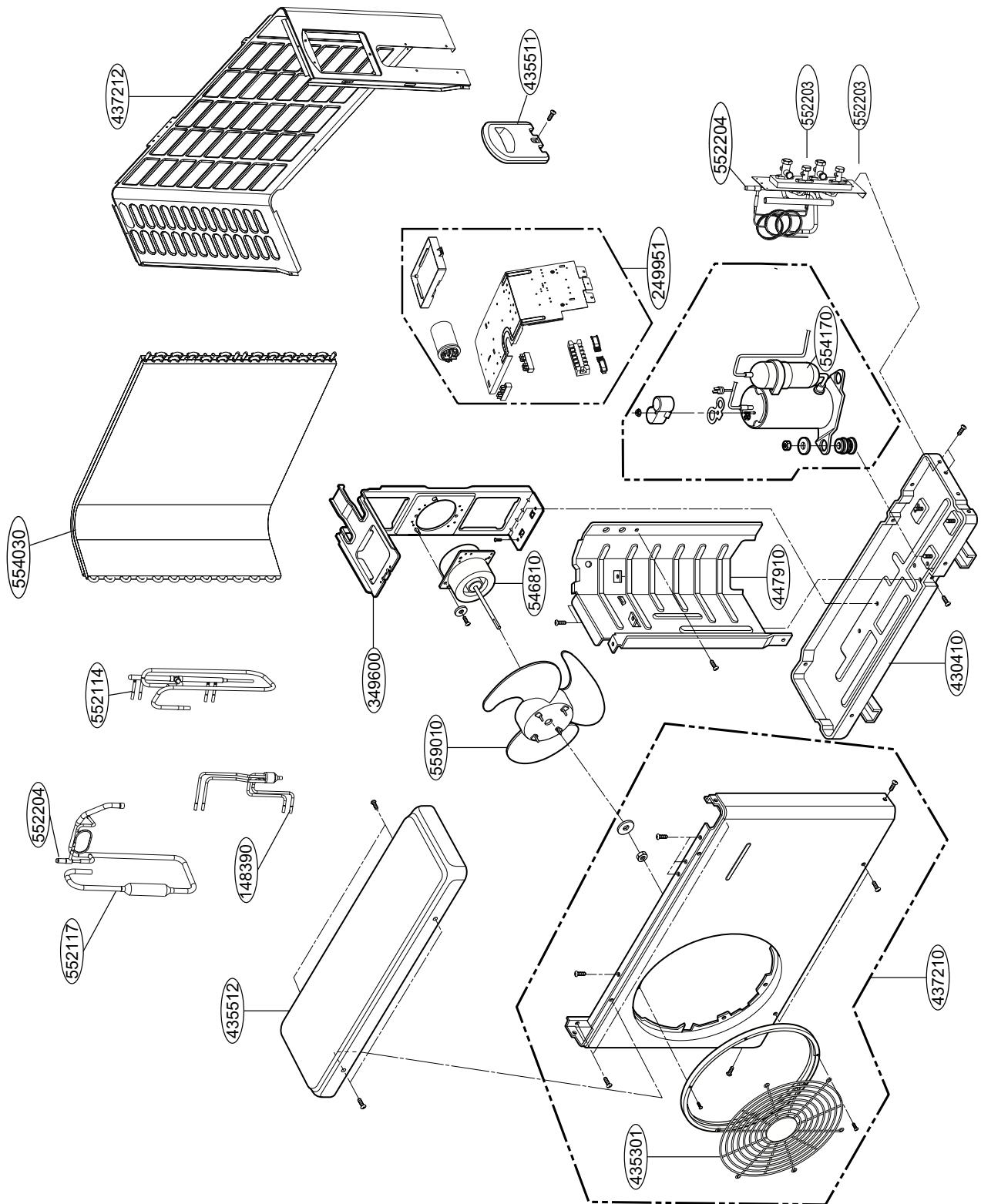
Parts List (Indoor)

LOCATION NO.	DESCRIPTION	PART No.		SVC CODE
		TMNC092DYAA (M092CD)	TMNC122DYAA (M122CD)	
131410	Chassis Assembly	3141A20019G	3141A20019G	R
359011	Fan Assembly,Cross Flow	5901A20017A	5901A20017A	R
346810	Motor Assembly,AC,Indoor	EAU42450401	EAU42450401	R
342800	Bearing	4280A20004A	4280A20004A	R
354210	Evaporator Assembly,First	ADL31252801	ADL31252801	R
354210	Evaporator Assembly,First	ADL31252601	ADL31252601	R
35211B	Tube Assembly,Tubing	AJR32733601	AJR32733601	R
352116	Tube Assembly,Evaporator(Out)	5211A22110C	5211A22110C	R
352111	Tube Assembly,Connector	AJR32837301	AJR32837302	R
135516	Cover Assembly,Motor	3551A30166A	3551A30166A	R
W0CZZ	Capacitor,Film,Box	3H01487A	3H01487A	R
135311	Grille Assembly,Discharge(Indoor)	AEB30975809	AEB30975809	R
146811	Motor,DC	4681A20117A	4681A20117A	R
249951	Case Assembly,Control(Indoor)	ABQ36627502	ABQ36627503	R
263230	Thermistor,NTC	6323A24001A	6323A24001A	R
W6640	Connector,Terminal Block	6640000036A	6640000036A	R
135316	Grille Assembly,Front(Indoor)	AEB30975923	AEB30975923	R
135515	Cover Assembly,Top(Indoor)	ACQ42392501	ACQ42392501	R
267110	Remote Controller Assembly	6711A20111K	6711A20111K	R

NOTE) *Please ensure GCSC since these parts may be changed depending upon the buyer's request.
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Exploded View and Replacement Parts List

- T2UC182FAA



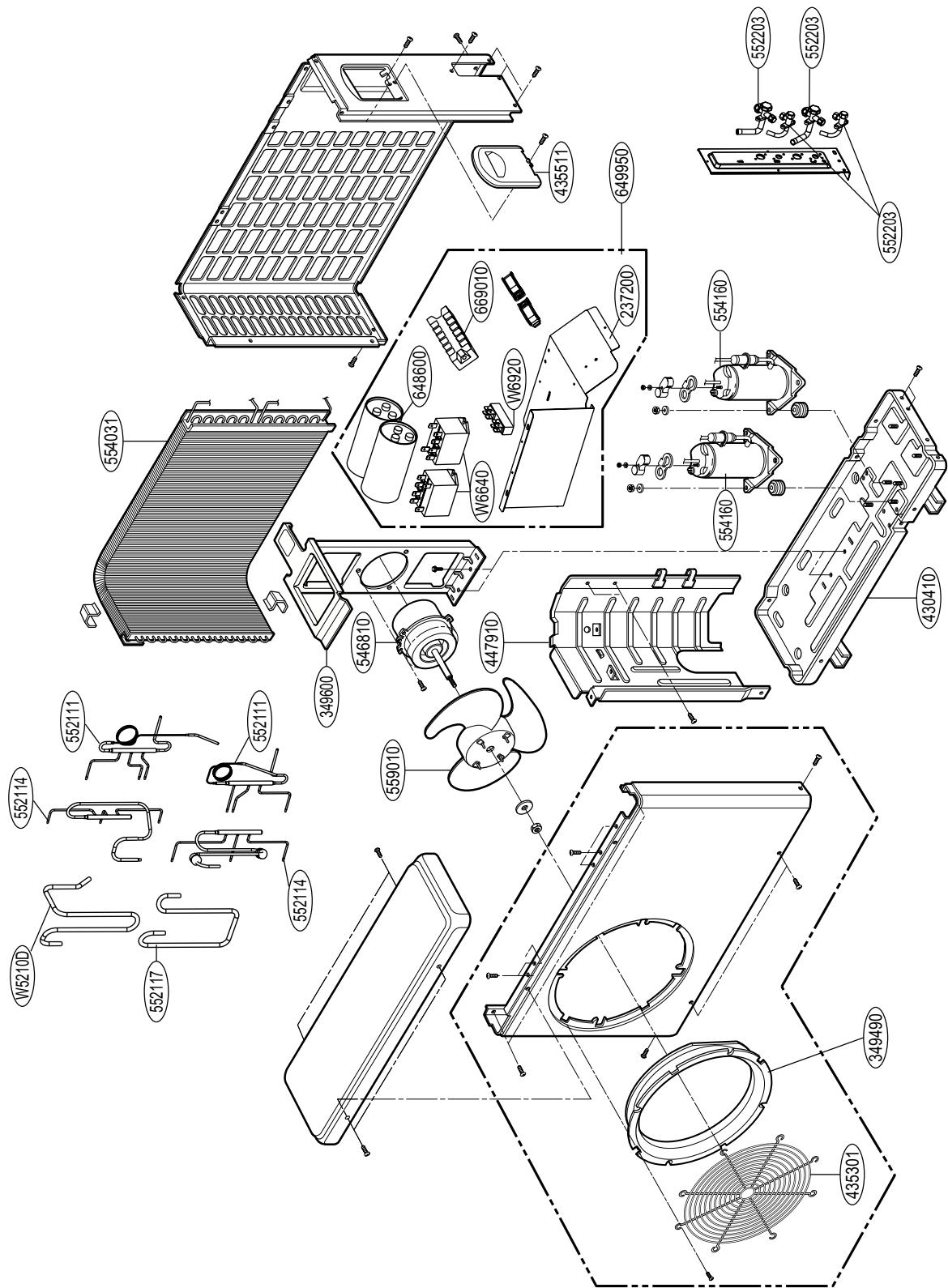
Parts List

LOCATION No.	DESCRIPTION	PART No.	SVC CODE
		T2UC182FAA (M182CX)	
430410	Base Assembly,Outdoor	2H02079R	R
554170	Compressor	MCB42528901	R
554030	Condenser Assembly,Bending	5403A20130A	R
148390	Tube Assembly,Capillary	5211A10065G	R
552117	Tube Assembly,Suction(Outdoor)	AJR36929701	R
552204	Valve,Solenoid	5220A90002A	R
552114	Assembly,Discharge(Outdoor)	AJR36929801	R
552203	Valve,Service	5220A21001D	R
552203	Valve,Service	5220AR2609E	R
552204	Valve,Solenoid	5220A90002A	R
349600	Bracket,Motor	2H02003C	R
546810	Motor Assembly,AC,Outdoor	4681A23012E	R
559010	Fan Assembly,Propeller	5900AR1119A	R
447910	Barrier,Outdoor	MAL35921401	R
249951	Case Assembly,Control	ABQ34746102	R
W6640	Connector,Terminal Block	3H00390A	R
W6640	Connector,Terminal Block	3H00390F	R
669010	Fuse Assembly	6901A20011P	R
669010	Fuse Assembly	6901A20011Q	R
437212	Panel,Rear	MGC35999905	R
437210	Panel Assembly,Front(Sub)	AGL32161001	R
137213	Panel Assembly,Side	3720AR1137P	R
435301	Grille,Discharge	1H00850H	R
435511	Cover	2H02030A	R
435512	Cover Assembly,Top(Outdoor)	2H01989K	R

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Exploded View and Replacement Parts List

- T2UC242FAA



Parts List

LOCATION No.	DESCRIPTION	PART No.	SVC CODE
		T2UC242FAA (M242CX)	
430410	Base Assembly,Outdoor	3041A30012W	R
552203	Valve,Service	2H01890Q	R
552203	Valve,Service	2H01890D	R
552203	Valve,Service	5220AR2609F	R
554160	Compressor	MCB42528801	R
554031	Condenser Assembly,Bending	5403A20058H	R
552114	Assembly,Discharge(Outdoor)	AJR31190003	R
552114	Assembly,Discharge(Outdoor)	AJR31021803	R
552111	Tube Assembly,Capillary	AJR31194203	R
552102	Tube,Capillary Bending	5210A20710T	R
552111	Tube Assembly,Capillary	AJR31194204	R
552102	Tube,Capillary Bending	5210A20710U	R
552117	Tube Assembly,Suction(Outdoor)	AJR36907501	R
W5210D	Tube,Suction	MJU32367703	R
349600	Bracket,Motor	4960A20046A	R
546810	Motor,AC	4681A20052Y	R
559010	Fan Assembly,Propeller	1A00195D	R
447910	Barrier Assembly,Outdoor	4791A30004Q	R
649950	Case Assembly,Control(Outdoor)	ABQ31029004	R
237200	Panel,Control	2A00928A	R
648600	Clamp,Capacitor	4H00442P	R
W6920	Relay,Contact	6920AP3400A	R
W6640	Connector,Terminal Block	4G00103A	R
W6640	Connector,Terminal Block	3H00390A	R
669010	Fuse Assembly	6901A20011P	R
669010	Fuse Assembly	6901A20011Q	R
349490	Orifice	4948A20005C	R
435301	Grille,Discharge	3530A20007M	R
435512	Cover	2A00915R	R
435511	Cover Assembly,Control(Outdoor)	3A01919A	R

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